Mabbett & Associates, Inc.
Environmental Consultants & Engineers
A SERVICE DISABLED VETERAN OWNED SMALL BUSINESS

5 Alfred Circle
Bedford, Massachusetts
01730-2318
Tel: (781) 275-6050
Fax: (781) 275-5651
info@mabbett.com
www.mabbett.com

January 6, 2010

Ms. Paula Stine
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Re: Modification to Remedial Action Plan
Bodycote Thermal Processing, Inc.
1975 North Ruby Street, Melrose Park, IL
Project No. 1998002.268

Dear Ms. Stine:

On behalf of Bodycote Thermal Processing, Inc. (Bodycote; formerly Lindberg Heat Treating Company), Mabbett and Associates, Inc. (M&A) is pleased to submit this request for Modifications to the Remedial Action Plans (RAPs) for the Heat Treatment Building (HTB) and the Salt and Gantry Buildings (SGB) located at the above referenced property. The Illinois Environmental Protection Agency (IEPA) conditionally approved the RAPs on May 15, 2000, December 28, 2000, March 12, 2001, and July 24, 2001.

The proposed modifications to the HTB RAP described herein pertain to the dense non-aqueous phase liquid (DNAPL) present in groundwater monitoring well M&A-113, the light non-aqueous phase liquid (LNAPL) present in groundwater monitoring well M&A-114, and the number of groundwater monitoring wells included in the semi-annual groundwater monitoring program.

The proposed modifications to the SGB RAP described herein pertain to amending the existing Groundwater Remedial Objective (GRO) for tetrachloroethylene (PCE), trichloroethylene (TCE), and cyanide, and the number of groundwater monitoring wells included in the semi-annual groundwater monitoring program.

A. Heat Treatment Building

1. DNAPL & LNAPL

Remedial technologies have been selected and implemented to address the presence of DNAPL at well M&A-113 and LNAPL at well M&A-114. DNAPL at M&A-113 consists of TCE and its degradation compounds and has impacted a sand unit located between 31-33 feet below grade.

Hydrogeologic characteristics of the Site are summarized in the *Remedial Objectives Report* dated October 26, 1999.

LNAPL at M&A-114 has been observed at the shallow groundwater table interface and is comprised of quench oil, which has physical properties similar to No. 2 fuel oil.

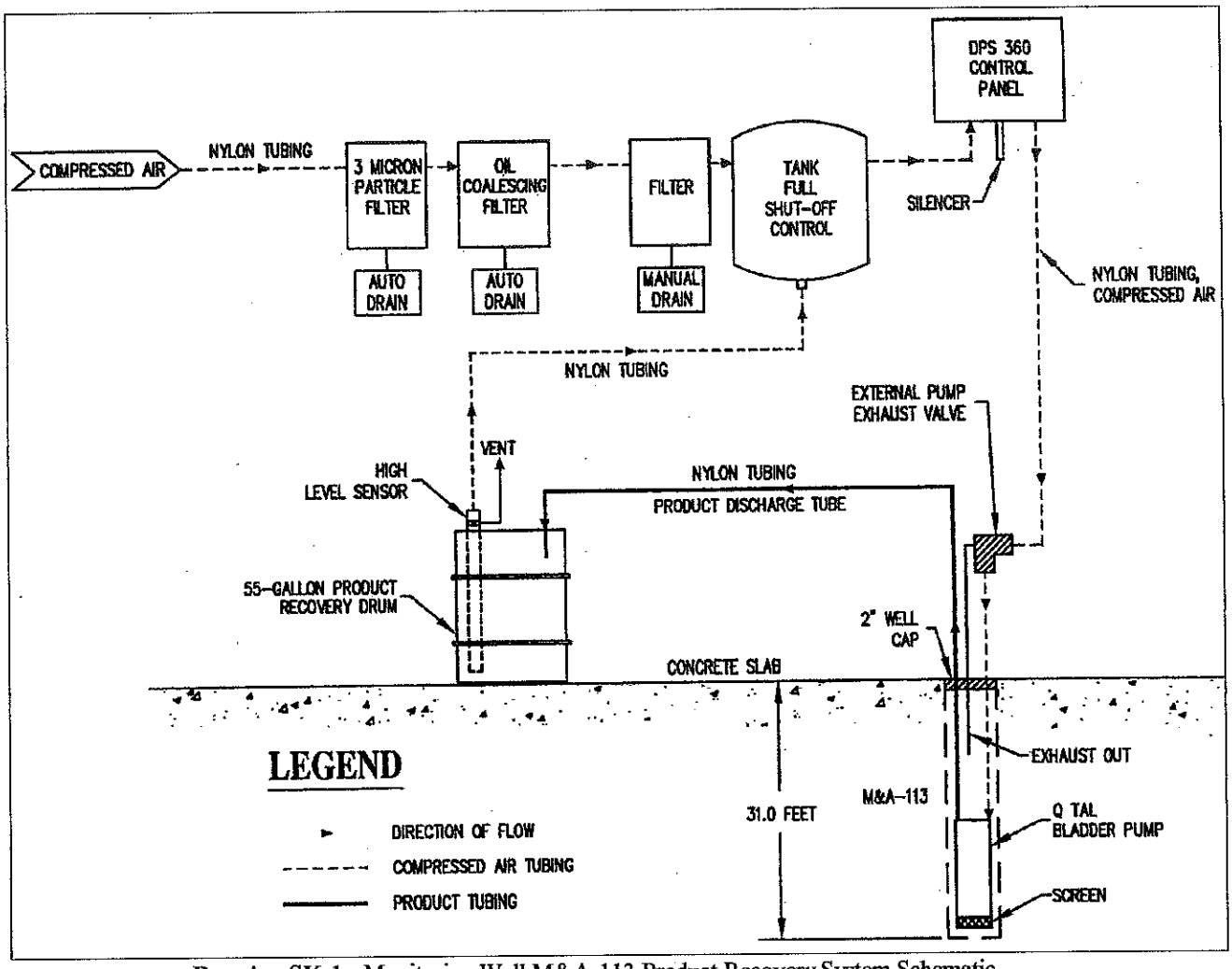
Both lenses of product were delineated in the *Site Investigation Report* submitted to IEPA on September 22, 1998 and approved by IEPA in a letter dated April 27, 1999. Descriptions of the remedial technologies implemented for source removal of DNAPL and LNAPL are described in the August 16, 2000 Remedial Action Plan and summarized in the following sections.

Shallow groundwater elevation contours based on the April 6 through 9, 2009, gauging data are depicted on Figure L-1, Shallow Groundwater Contour Plan. The groundwater elevation contours calculated using the April 6 through 9, 2009, gauging data are similar to historic groundwater elevation contours at the Site. The recent and historical data indicate that groundwater at the Site generally flows to the west.

2. DNAPL

The removal of DNAPL from well M&A-113 has been conducted since November 1997 with a stainless steel QED pneumatic Eliminator™ pump equipped with a teflon bladder. A plan depicting features and controls of the product recovery system is presented in Drawing SK-1 below.

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com



Drawing SK-1: Monitoring Well M&A-113 Product Recovery System Schematic.

The pump is set at 31 feet below grade at the bottom of well M&A-113, which is screened across the DNAPL impacted sand unit. The system is run on compressed air, which passes through a gross particle filter and oil coalescing filter prior to injection into the bladder pump. Pump air supply lines and product return lines are constructed of reinforced nylon tubing. Recovered product and groundwater is collected in a 55-gallon drum located adjacent to the well head.

As presented in M&A's *Site Investigation Report*, dated September 22, 1998, well M&A-113 appears to be located in the center of the DNAPL lens. The geology of the Site (silt, clay, and very fine sand) limits the use of alternative methods of remediation that can be effectively employed for the removal of VOC contamination in soil and groundwater. Data presented in the *Site Investigation Report* and *Remedial Objectives Report* indicated that on-site soils have a very low permeability. In prior efforts to enhance recovery, high vacuums were applied to on-site recovery and groundwater monitoring wells with little or no soil vapor flow observed. A soil vapor recovery/groundwater pilot

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

test conducted in October 1994 concluded that conventional pump and treat, and soil vapor extraction techniques were not technically feasible alternatives to remediate soil and groundwater beneath the HTB.

Based on the results of well yield testing, as described in the *Site Investigation Report* (September 22, 1998), the bladder pump was initially programmed to pump approximately 2-3 gallons of fluids (DNAPL /groundwater) a day to maximize DNAPL recovery. However, based on the recovery ratio of DNAPL to water the bladder pump was reprogrammed to stroke once per twelve hours resulting in approximately one-third (1/3) of a gallon of total fluids a day and a product to water ratio of 1:3.

From inception, source removal efforts at well M&A-113 have yielded approximately 260-gallons of DNAPL and 1,500 gallons of groundwater. Based on the recent observed DNAPL recovery volumes, the volume of DNAPL present in the area of well M&A-113 has been significantly reduced.

The relative quantity of DNAPL recovered has been declining over time, indicating a decreasing trend in the mass of recoverable DNAPL in the subsurface. Thus, M&A proposes to discontinue active recovery on a temporary basis and perform a product recharge study from time-to-time over the next 12 months to examine the recharge rates and apparent product thickness of DNAPL in groundwater monitoring well M&A-113. If measurable DNAPL in groundwater monitoring well M&A-113 is consistently below one-eighth of an inch (1/8-inch) for a period of one year while the DNAPL extraction system is not operating, DNAPL will have been removed to the maximum extent practicable and M&A will file for a No Further Remediation letter under the Voluntary Clean-up Program for the DNAPL issue at the facility. M&A will measure DNAPL thickness in groundwater monitoring well M&A-113 at a minimum on a quarterly basis. If DNAPL volumes are above one-eighth of an inch (1/8-inch) M&A will continue to operate the DNAPL recovery system until we feel it appropriate to perform another product recharge study.

M&A will provide IEPA with an annual status report of its DNAPL recharge study and the results by December 31st of each year.

3. LNAPL

Prior to installation of the recovery system, a maximum LNAPL layer of two feet was observed at well M&A-114. Hand bailing of product from the well reduced the average LNAPL thickness to two inches or less, at which time a belt skimmer was installed. The LNAPL from M&A-114 was removed via an ABANAKI PetroXtractor™ Well Oil Skimmer, which was operational from November 1997 to September 2000. The belt skimmer discharged into a 55-gallon drum equipped with an automatic overflow shut off. During the first week of operation the belt skimmer was operational for approximately three hours a day. However, field reports indicated that after one week no additional recharge of LNAPL appeared to be occurring. The frequency of belt skimmer operation was reduced to 1-2 hours several times a week and in September 2000 was discontinued due to insufficient volumes recovered, thus rendering the oil skimmer ineffective.

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

As presented in M&A's *Site Investigation Report* (September 22, 1998), well M&A-114 is located in the center of the LNAPL lens. The geology of the Site (silt, clay, and very fine sand) limits the use of alternative methods of remediation that can be effectively employed for the removal of LNAPL contamination to soil and groundwater. Data presented in the *Site Investigation Report* and *Remedial Objectives Report* indicates that on-site soils have a very low permeability. In prior efforts to enhance recovery, high vacuums were applied to on-site recovery and groundwater monitoring wells with little or no soil vapor flow observed. A soil vapor recovery/groundwater pilot test conducted in October 1994 concluded that conventional pump and treat and/or soil vapor extraction techniques were not technically feasible alternatives to remediate soil and/or groundwater beneath the HTB.

Upon discontinuing the use of the oil skimmer, Bodycote personnel performed hand bailing activities at M&A-114 on a bi-weekly basis from September 2000 until August 2002. Due to insufficient volumes being recovered from the well, M&A instructed Bodycote personnel to place oil absorbent socks in the well and change them on a bi-weekly basis. This occurred from August 2002 through October 2002 when recovery rates increased sufficiently to warrant the reinstitution of hand bailing activities. Hand bailing activities were conducted from October 2002 to June 2009 when recovery volumes again became insufficient and oil absorbent socks were again placed into the well. From inception to-date approximately 26-gallons of LNAPL have been removed from M&A-114.

M&A proposes to instruct Bodycote personnel to continue to place oil absorbent socks into groundwater monitoring well M&A-114 and change them on a weekly basis if oil stained. If recovery rates increase sufficiently to warrant converting to hand bailing, then LNAPL recovery will continue using this method. If recovery rates decrease, M&A proposes to perform a product recharge study when the oil absorbent media do not appear to be saturated/stained on a consistent basis. The product recharge study will consist of removing oil absorbent media from M&A-114 and allowing LNAPL to recharge into the well. If LNAPL in groundwater monitoring well M&A-114 is less than one-eighth of an inch (1/8-inch) for a period of one year, LNAPL will have been removed to the maximum extent practicable and M&A will file for a No Further Remediation letter under the Voluntary Clean-up Program for the LNAPL issue at the facility.

4. *Groundwater Monitoring Program*

Semi-annual groundwater monitoring at key monitoring wells has been conducted in the HTB for the past nine (9) years. As stated in the RAP, groundwater monitoring would be conducted until free product has been removed to the maximum extent practicable and residual VOC concentrations in groundwater meet the established GROs. According to the conditionally approved RAP, M&A is required to sample fifteen (15) groundwater monitoring wells, however, due to the nature and aerial extent of the contamination M&A has collected an additional 10-15 groundwater samples from various wells located in the HTB from time-to-time in order to confirm a representative Conceptual Site Model that includes limited migration of VOCs away from source areas. Figure L-2 depicts the groundwater monitoring wells sampled during our most recent extended sampling program in

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

October 2008. Groundwater monitoring wells shown in red indicate that VOCs were detected at concentrations above the applicable GROs whereas groundwater monitoring wells shown in green indicate that VOCs were not detected at concentrations above the applicable GROs. Based on historical data indicating compliance with the established GROs for several groundwater monitoring wells M&A proposes a reduction in the required groundwater monitoring plan from fifteen (15) groundwater monitoring wells to eight (8) groundwater monitoring wells.

Until the April 2009 monitoring event, the groundwater monitoring wells included in the semi-annual program consisted of MCA-2, MCA-5, M&A-103, M&A-104, M&A-105, M&A-107, M&A-111, M&A-112, M&A-115, M&A-116, M&A-119, M&A-120, M&A-121, M&A-122, and M&A-126. Wells M&A-113 and M&A-114 are not typically sampled since product recovery is currently taking place in these wells. Due to a new production furnace line installation in December 2008 groundwater monitoring wells M&A-103, M&A-105, and M&A-119 were closed-in-place. A detailed letter describing the closure activities was sent to IEPA on January 22, 2009.

Only a few wells in the semi-annual monitoring program consistently exceed the GRO established for the HTB. Most of the wells in the semi-annual monitoring program have been below GROs for many years and, in some cases, have always been below GROs since the monitoring program was established in 2000. The semi-annual data collected in accordance with the RAP demonstrate that concentrations of VOCs remain steady or are decreasing. Therefore, in our professional opinion, 15 wells are no longer needed to monitor the VOC plume and fewer wells can be used to track the concentration of VOCs in groundwater beneath the HTB without compromising the data collection-monitoring program.

M&A thus, proposes to exclude groundwater monitoring wells MCA-2, M&A-103, M&A-105, M&A-107, M&A-119, M&A-120, and M&A-121 from the semi-annual groundwater monitoring program.

The groundwater monitoring wells chosen to remain in the program were based on historical data presented on the attached Table 1 – Historical Groundwater Analytical Data Summary. Figure L-3 depicts VOC GRO exceedances based on the April 2009 groundwater monitoring event. As indicated on Figure L-3, M&A-104 and M&A-111 exceeded GROs in the April 2009 sampling event. These two wells, and well MCA-5 which has historically exceed the GRO, will remain in the sampling program.

M&A will monitor the distribution of VOCs in intermediate depth groundwater by sampling intermediate depth wells M&A-111, M&A-115, M&A-122, and M&A-126 until residual VOC concentrations in intermediate groundwater meet the established GROs. See Table 2 below.

M&A will monitor the distribution of VOCs in shallow groundwater by sampling shallow depth wells MCA-5, M&A-104, M&A-112, and M&A-116 until residual VOC concentrations in shallow

5 Alfred Circle, Bedford, Massachusetts 01730-2318· Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

groundwater meet the established GROs. See Table 2 below. Also refer to Table 3 for a summary of wells and proposed actions for the HTB.

Well Identification	Current Groundwater Monitoring Wells	Proposed Groundwater Monitoring Wells
MCA-2	VOCs	-
MCA-5	VOCs	VOCs
M&A-103	VOCs	-
M&A-104	VOCs	VOCs
M&A-105	VOCs	-
M&A-107	VOCs	-
M&A-111	VOCs	VOCs
M&A-112	VOCs	VOCs
M&A-115	VOCs	VOCs
M&A-116	VOCs	VOCs
M&A-119	VOCs	-
M&A-120	VOCs	-
M&A-121	VOCs	-
M&A-122	VOCs	VOCs
M&A-126	VOCs	VOCs

TABLE 2: Current groundwater monitoring wells sampled during the semi-annual groundwater sampling event and proposed groundwater monitoring wells to be sampled during future semi-annual groundwater sampling events.

Groundwater samples will be collected and analyzed using the same methods as the existing program. M&A personnel utilize the EPA document *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells,* dated July 30, 1996. M&A will purge each well by using a variable speed peristaltic pump to control the rate of purging and limit the drawdown caused by this operation. Dedicated $^{3}/_{8}$-inch outer diameter polyethylene tubing installed in each of the wells will be utilized as the intake and discharge tubing for the pumps. Pharmaceutical-grade tubing will be utilized in the pump head and was connected to the intake and discharge tubing (by insertion) to prevent the introduction of air into the samples. M&A will purge groundwater until the following field parameters generally stabilize to within the ranges presented:

Field Parameter	Stabilization Criteria
Specific Conductivity	3% of range
Oxidation-Reduction Potential	10.0 millivolts (mV)
Dissolved Oxygen	10% of range
pH	0.10 Standard pH Units
Temperature	0.2°C
Turbidity	10% of range

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

Following an initial purge period, measurements for these field parameters will be collected and recorded approximately every 3 to 5 minutes. In general, when all field parameters have stabilized for three consecutive measurements, the purging process will be terminated and the well will be prepared for sampling.

The sampling methodology involves running the peristaltic pump so that groundwater samples can be collected through the dedicated tubing. The samples will be collected in laboratory-supplied glassware, stored in an iced cooler, and submitted under chain-of-custody procedures to a licensed analytical laboratory for Volatile Organic Compounds (VOC) using EPA Method 8260B.

B. Salt and Gantry Buildings (SGB)

1. Groundwater Remedial Objectives

In its May 15, 2000 conditional approval of the RAP for the SGB, the IEPA established the existing GROs for VOCs based on the highest detected concentrations of VOCs in groundwater at the time of the initial subsurface investigation. The approval identifies the GRO for trichloroethylene (TCE) in the shallow aquifer system as 0.39 mg/L and 0.29 mg/L in the intermediate aquifer system and the GRO for tetrachloroethylene (PCE) as 45 mg/L. Based on the initial subsurface investigation, TCE was detected at a concentration of 45 mg/L and PCE was detected at a concentration of 0.39 mg/L in the shallow aquifer system and 0.29 mg/L in the intermediate aquifer system. To correct this transposition, M&A proposes that the GRO for PCE be changed to 0.39 mg/L for the shallow aquifer system and to 0.29 mg/L for the intermediate aquifer system, and the GRO for TCE be changed to 45 mg/L.

Shallow groundwater elevation contours based on the April 8, 2009, gauging data are depicted on Figure L-4, Shallow Groundwater Contour Plan. The calculated direction of groundwater flow is toward the north. The groundwater remediation system was actively removing groundwater at the time of the gauging event and may have impacted groundwater flow direction. As such, the groundwater flow direction depicted on Figure L-4 is an estimate based on the best available data to date.

The IEPA May 15, 2000 conditional approval of the RAP for the SGB established a GRO for cyanide of 0.685 mg/L. The RAP also required that procedures from *Test Methods For Evaluating Solid Waste Physical/Chemical Methods (SW-846) Third Edition* be followed. Accordingly, cyanide samples have been analyzed for total cyanide by SW-846 Method 9012. Cyanide forms ionic complexes of varying stability with many metals. Most cyanide complexes are much less toxic than cyanide. However, weak acid dissociable complexes such as those of copper and zinc are relatively unstable and will thus, release cyanide back to the environment. Iron cyanide complexes are of particular importance due to the abundance of iron typically available in soils and the extreme stability of this complex under most environmental conditions.

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

Free cyanides, include the cyanide ion (CN-) and hydrogen cyanide (HCN), plus cyanide from the breakdown of many of the weak cyanide complexes. Weak acid dissociable cyanide includes the free cyanides and many of the weak metal-cyanide complexes that could be potentially toxic by hydrolysis to free cyanide in the pH range of 4.5-6.0. The total cyanide analysis measures the free cyanides, the weak acid dissociable cyanides, and the strongly complexed metal-cyanides such as the ferro and ferric cyanide complexes. The iron complexed cyanides are considered by EPA to be nontoxic (unless exposed to significant UV irradiation), and are not considered by EPA when defining cyanide toxicity[1].

The use of an analytical method that quantifies weak acid dissociable cyanide is appropriate for determining whether dissolved cyanide poses a human health or ecological risk. Such analytical methods are currently used in Illinois to determine compliance with NPDES permits. Bodycote proposes to use a weak acid dissociable cyanide method such as *Standard Methods for the Examination of Water and Wastewater* 20th Edition 1998 test number SM-4500-CN or equivalent, such as EPA *Method OIA-1677 for Available Cyanide* for comparison to the current cyanide GRO of 0.685 mg/L.

2. Groundwater Monitoring Program

Semi-annual groundwater monitoring at key monitoring wells has been conducted in the SGB for the past nine (9) years. As stated in the RAP, groundwater monitoring at key monitoring wells is to be conducted until residual VOC concentrations and total cyanide concentrations in groundwater meet the established GROs. According to the conditionally approved RAP and subsequent correspondence M&A is required to sample seventeen (17) groundwater monitoring wells on a semi-annual basis. Due to the nature and aerial extent of the contamination in the past M&A has collected an additional ten to fifteen (10-15) groundwater samples from various wells located in the SGB from time-to-time to confirm a representative Conceptual Site Model that includes limited migration of VOCs and cyanide away from source areas. Figure L-5 depicts the groundwater monitoring wells sampled during our most recent extended sampling program in October 2008. Groundwater monitoring wells shown in red indicate that VOCs were detected at concentrations above the applicable GROs, groundwater monitoring wells shown in purple indicate that cyanide was detected at concentrations above the applicable GRO, and groundwater monitoring wells shown in green indicate that neither VOCs or cyanide were detected at concentrations above the applicable GROs.

[1]EPA Water and Wastewater Security Product Guide,
http://cfpub.epa.gov/safewater/watersecurity/guide/productguide.cfm?page=portablecyanideanalyzer)

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

With a revision of the transposition of GROs for TCE and PCE, only a few wells in the semi-annual monitoring program consistently exceed the GRO established for the SGB. Most of the wells in the semi-annual monitoring program have been below the proposed GROs for many years and, in some cases, have always been below GROs since the monitoring program was established in 2000. The semi-annual data collected in accordance with the RAP, demonstrate concentrations of VOCs remain steady or are decreasing. Therefore, in the professional opinion of M&A, seventeen (17) wells are no longer needed to monitor the VOC plume and fewer wells can be used to track the concentration of VOCs and cyanide in groundwater beneath the SGB.

Based on historical data indicating compliance with the established GROs M&A proposes a reduction in the required groundwater monitoring plan from seventeen (17) groundwater monitoring wells for VOCs to eight (8) and from seventeen (17) groundwater monitoring wells for cyanide to eleven (11).

Currently the groundwater monitoring wells included in the semi-annual program for VOCs and cyanide consist of M&A-207, M&A-211, M&A-213, M&A-214, M&A-216, M&A-217, M&A-218, M&A-219, M&A-220, M&A-223, M&A-224, M&A-225, M&A-226, MW-301, MW-302, MW-303, and MW-304. M&A proposes to remove groundwater monitoring wells M&A-207, M&A-214, M&A-217, M&A-220 (destroyed by site works in 2006), M&A-226, MW-301, MW-302, MW-303, and MW-304 from the VOC program and groundwater monitoring wells M&A-211, M&A-213, M&A-214, M&A-220 (destroyed by site works in 2006), MW-301, and MW-304 from the cyanide program.

The aforementioned groundwater monitoring wells were chosen based on historical data presented on Table 4 – SGB Historical Groundwater Analytical Data Summary. As indicated on Table 4, if the GROs are adjusted as proposed, only two groundwater monitoring wells in the SBG will exceed the applicable GROs for VOCs (i.e., M&A-211 and M&A-223) and two wells will exceed the GRO for cyanide (i.e., M&A-207 and M&A-225) based on the most recent round of groundwater monitoring data from April 2009. Figure L-6 depicts VOC GRO exceedances based on the April 2009 groundwater monitoring event.

M&A will monitor the distribution of VOCs in groundwater by sampling groundwater monitoring wells M&A-211, M&A-213, M&A-216, M&A-218, M&A-219, M&A-223, M&A-224, and M&A-225 until residual VOC concentrations in groundwater meet the established GROs.

M&A will monitor the distribution of cyanide in groundwater by sampling groundwater monitoring wells M&A-207, M&A-216, M&A-217, M&A-218, M&A-219, M&A-223, M&A-224, M&A-225, M&A-226, MW-302, and MW-303 until residual cyanide concentrations in groundwater meet the established GRO.

Refer to Table 5 below. Also refer to Table 6 for a summary of wells and proposed actions for the SGB.

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

Well Identification	Current Groundwater Monitoring Wells	Proposed Groundwater Monitoring Wells
M&A-207	VOCs/cyanide	cyanide
M&A-211	VOCs/cyanide	VOCs
M&A-213	VOCs/cyanide	VOCs
M&A-214	VOCs/cyanide	-
M&A-216	VOCs/cyanide	VOCs/cyanide
M&A-217	VOCs/cyanide	cyanide
M&A-218	VOCs/cyanide	VOCs/cyanide
M&A-219	VOCs/cyanide	VOCs/cyanide
M&A-220	VOCs/cyanide	-
M&A-223	VOCs/cyanide	VOCs/cyanide
M&A-224	VOCs/cyanide	VOCs/cyanide
M&A-225	VOCs/cyanide	VOCs/cyanide
M&A-226	VOCs/cyanide	cyanide
M&A-301	VOCs/cyanide	-
M&A-302	VOCs/cyanide	cyanide
M&A-303	VOCs/cyanide	cyanide
M&A-304	VOCs/cyanide	-

TABLE 5: Current groundwater monitoring wells sampled during the semi-annual groundwater sampling event and proposed groundwater monitoring wells to be sampled during future semi-annual groundwater sampling events.

Groundwater samples will be collected and analyzed using the same methods as the existing program. M&A personnel utilize the EPA document *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells,* dated July 30, 1996. M&A will purge each well by using a variable speed peristaltic pump to control the rate of purging and limit the drawdown caused by this operation. Dedicated $^{3}/_{8}$-inch outer diameter polyethylene tubing installed in each of the wells will be utilized as the intake and discharge tubing for the pumps. Pharmaceutical-grade tubing will be utilized in the pump head and was connected to the intake and discharge tubing (by insertion) to prevent the introduction of air into the samples. M&A will purge groundwater until the following field parameters generally stabilize to within the ranges presented:

Field Parameter	Stabilization Criteria
Specific Conductivity	3% of range
Oxidation-Reduction Potential	10.0 millivolts (mV)
Dissolved Oxygen	10% of range
pH	0.10 Standard pH Units
Temperature	0.2°C
Turbidity	10% of range

Following an initial purge period, measurements for these field parameters will be collected and

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

recorded approximately every 3 to 5 minutes. In general, when all field parameters have stabilized for three consecutive measurements, the purging process will be terminated and the well will be prepared for sampling.

The sampling methodology involves running the peristaltic pump so that groundwater samples can be collected through the dedicated tubing. The samples will be collected in laboratory-supplied glassware, stored in an iced cooler, and submitted under chain-of-custody procedures to a licensed analytical laboratory for Volatile Organic Compounds (VOC) using EPA Method 8260B and, if approved by IEPA, weak acid dissociable cyanide using EPA Method SM4500-CN rather than the previously approved total cyanide 9012B. M&A proposes the change in the cyanide analytical methodology because the analytical method for total cyanide (EPA Method 9012B) reports most forms of cyanide, while the analytical method for weak acid dissociable cyanide (EPA Method SM4500-CN) more closely quantifies the toxic forms of cyanide for comparison to a regulatory standard.

5 Alfred Circle, Bedford, Massachusetts 01730-2318· Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

We appreciate the opportunity to submit this request and look forward to your timely consideration and reply.

Should you have any questions or require additional information about the information presented herein, please feel free to contact the undersigned at (781) 275-6050.

Very truly yours,

MABBETT & ASSOCIATES, INC.

BY:

Christopher L. Mabbett, M.S., EIT
Environmental Engineer

James R. Greacen, P.G.
Director, Site Assessment and Restoration

Paul D. Steinberg, P.E., LSP
Licensed Professional Engineer No. 062.057736
Expires 11/30/2011

PAUL D. STEINBERG
062-057736
LICENSED
PROFESSIONAL
ENGINEER
OF

11/06/2010

CLM:PDS/rar

Enclosures:
1. Table 1 – Historical Groundwater Analytical Data Summary
2. Table 3 – Summary of wells and proposed actions for the HTB
2. Table 4 – SGB Historical Groundwater Analytical Data Summary
3. Table 6 – Summary of wells and proposed actions for the SGB
3. Figure L-1 – HTB Shallow Groundwater Elevation Contours (April 2009)
4. Figure L-2 – HTB Extended Groundwater Monitoring Program (October 2008)
5. Figure L-3 – HTB IEPA Currently Approved Groundwater Monitoring Program (April 2009)
6. Figure L-4 – SGB Shallow Groundwater Contours (April 2009)
7. Figure L-5 – SGB Extended Groundwater Monitoring Program (October 2008)
8. Figure L-6 – SGB IEPA Currently approved Groundwater Monitoring Program (April 2009)

cc: Don Heller (Region V U.S. EPA)
Mr. Thomas Anderson (Bodycote Thermal Processing)
ANM, PDS, JRG, CLM (MF)

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

TABLE 1
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY
HEAT TREATING BUILDING

WELL ID	Parameter		Benzene	Carbon Disulfide	Chloro-methane	1,2-Dichloro-benzene	cis-1,2-Dichloro-ethene	1,1-Dichloro ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene Chloride	PCE	Toluene	1,1,2-Trichloro-ethane	TCE	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes	Bromo-methane	Naptha-lene	n-propyl-benzene	Total BTEX
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
	Est. Shallow Aquifer GRO		NSL	NSL	NSL	NSL		NSL	NSL	120	800	NSL	NSL	NSL	68,000	NSL	NSL	1,100,000	NSL	NSL	7,200	NSL	NSL	NSL	NSL	NSL
	Est. Intermediate Aquifer GRO		NSL	NSL	NSL	NSL	240,000	NSL	NSL	190	110	NSL	NSL	NSL	200,000	NSL	NSL	1,100,000	NSL	NSL	160	NSL	NSL	NSL	NSL	NSL
	AQUIFER	Sampling Event Date																								
MCA-1	Shallow	10/28/2006	ND	ND	ND	ND	110	ND	ND	ND	16.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	ND	ND	ND	ND
MCA-2	Shallow	10/24/2001	ND	ND	ND	ND	50.0	ND	ND	ND	7.1	ND	ND	ND	ND	ND	ND	15.0	ND	ND	120	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	64.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.3	ND	ND	ND	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	57.0	ND	51.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	76.0	ND	139	ND	ND	ND
		4/23/2003	ND	ND	4.4	ND	56.7	ND	ND	ND	7.2	ND	ND	ND	1.0	ND	ND	16.2	ND	ND	145	ND	6.7	ND	ND	1.1
		10/23/2003	ND	ND	ND	ND	63.9	ND	ND	ND	8.8	ND	ND	ND	4.5	ND	ND	42.2	ND	ND	115	ND	ND	ND	ND	1.1
		5/18/2004	ND	ND	ND	ND	61.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	43.6	ND	ND	5.0	ND	ND	ND	ND	ND
		10/5/2004 [2]	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/26/2005 [2]	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/25/2005 [2]	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/17/2006 [2]	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/19/2006	ND	ND	ND	ND	6.69	ND	ND	ND	6.92	ND	ND	ND	1.3	ND	ND	1.24	ND	ND	12	ND	ND	ND	ND	ND
		5/2/2007	1.06	ND	ND	ND	6.44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.32	ND	ND	1.96	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	ND	ND	ND	ND	1.78	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.13	ND	ND	ND	ND	ND
		4/16/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.03	ND	ND	ND	ND	ND	ND	ND	ND
		6/30/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/23/2008	ND	ND	ND	ND	2.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/7/2009 [10]	ND	ND	ND	ND	2.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.7	ND	ND	8.4	ND	ND	ND	ND	ND
MCA-3	Shallow	10/27/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MCA-4	Shallow	10/28/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MCA-5	Shallow	10/25/2001	ND	ND	ND	ND	39,000	ND	ND	ND	720	ND	ND	ND	ND	ND	ND	30,000	ND	ND	6,600	ND	ND	ND	ND	ND
		5/1/2002	ND	ND	ND	ND	38,800	ND	ND	110	649	ND	ND	ND	29.5	ND	ND	32,400	ND	ND	8,500	ND	ND	ND	ND	7.1
		10/2/2002	ND	ND	ND	ND	36,900	ND	ND	120	600	ND	ND	ND	ND	ND	ND	26,600	ND	ND	8,700	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	16.6	ND	37,300	2.8	ND	135	740	ND	ND	ND	39.3	ND	ND	37,300	ND	ND	9,270	ND	ND	ND	ND	11.5
		10/23/2003	ND	ND	ND	ND	16,600	2.9	ND	139	390	ND	ND	ND	42.2	ND	ND	18,000	1.7	ND	7,300	ND	ND	20.3	ND	15.1
		5/18/2004	1.0	ND	ND	ND	40,200	1.2	ND	145	770	ND	ND	ND	41.4	10.5	ND	47,000	ND	ND	10,800	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	42,200	ND	ND	106	766	ND	ND	ND	50.0	ND	ND	50,000	ND	ND	9,800	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	38,000	4.0	ND	101	656	ND	ND	ND	53.2	9.9	ND	47,000	ND	ND	10,600	ND	ND	ND	ND	ND
		10/25/2005	1.5	1.3	ND	ND	ND	2.8	ND	173	561	ND	ND	ND	33.7	11.5	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND
		4/19/2006	1.0	ND	ND	ND	31,100	2.2	ND	96.2	421	ND	ND	ND	49.6	10.6	ND	30,400	ND	ND	4,930	ND	ND	ND	ND	ND
		10/18/2006	ND	ND	ND	ND	29,400	78.3	ND	3.03	354	ND	ND	ND	14.6	5.1	ND	19,500	ND	ND	3,810	ND	ND	ND	ND	5.1
		4/30/2007	ND	ND	ND	ND	25,000	2.97	ND	27.6	526	ND	ND	ND	12	1.44	ND	42,000	ND	ND	3,520	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	51,400	162	ND	ND	1,750	ND	ND	ND	88.5	ND	ND	66,900	ND	ND	9,220	ND	ND	ND	ND	ND
		4/16/2008 [5]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/22/2008	1.24	ND	ND	ND	51,400	4.93	ND	166	987	ND	ND	ND	62.3	12	ND	67,700	ND	ND	5,080	ND	ND	ND	ND	ND
		4/7/2009	ND	ND	ND	ND	30,400	2.52	ND	88.7	682	ND	ND	ND	64.9	5.17	ND	55,500	ND	ND	2,860	ND	ND	ND	ND	ND
M&A-101	Intermed	10/29/2008	2.17	ND	ND	ND	13,200	4.67	ND	50.2	1,160	ND	ND	8.02	188	4.54	ND	179,000	ND	ND	48	ND	ND	ND	ND	ND
M&A-102	Shallow	10/29/2008 [12]	ND	ND	ND	ND	35,900	1.53	ND	125	125	ND	ND	ND	15.1	1.29	ND	13,400	ND	ND	180	ND	ND	ND	ND	ND
M&A-103[11]	Shallow	10/25/2001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	870	ND	ND	ND	ND	ND
		5/1/2002	ND	ND	ND	ND	13.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	65.8	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	565	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	ND	139	ND	ND	ND	ND	ND
		10/23/2003	ND	ND	ND	ND	31.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND	5.5	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	50.3	ND	ND	ND	3.2	ND	ND	ND	ND	ND	ND	9.4	ND	ND	382	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	140	ND	ND	2.2	13.7	ND	ND	ND	ND	ND	ND	8.1	ND	ND	616	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	19.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND	319	ND	ND	ND	ND	ND
		10/25/2005	ND	ND	ND	ND	26.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	ND	291	ND	ND	ND	ND	ND
		4/17/2006	ND	ND	ND	ND	18.8	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	4.3	ND	ND	50.4	ND	ND	ND	ND	ND
		10/19/2006	ND	ND	ND	ND	194	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	472	ND	ND	ND	ND	ND
		4/30/2007	ND	ND	2.6	ND	59.5	ND	ND	ND	5.27	ND	ND	ND	ND	ND	ND	5	ND	ND	290	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	69.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.3	ND	ND	342	ND	ND	ND	ND	ND
		4/16/2008	ND	ND	ND	ND	76.1	ND	ND	1.32	1.29	ND	ND	ND	2.82	ND	ND	403	ND	ND	272	ND	ND	ND	ND	ND
		10/23/2008	ND	ND	ND	ND	75.4	ND	ND	1.95	3.03	ND	ND	ND	ND	ND	ND	5.66	ND	ND	334	ND	ND	ND	ND	ND
		4/7/2009 [11]	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M&A-104	Shallow	10/25/2001	ND	ND	ND	ND	28,000	ND	ND	120	490	ND	ND	ND	1,400	ND	ND	190,000	ND	ND	1,700	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	1,140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	450	ND	ND	5,640	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	42,700	ND	ND	155	315	ND	ND	ND	2,000	ND	ND	304,000	ND	ND	2,200	ND	ND	ND	ND	120
		10/23/2003 [1]	ND	ND	ND	1.80	38,700	25.8	ND	100	215	ND	ND	15.9	1,540	ND	ND	124,000	4.3	1.2	1,320	ND	ND	ND	1.0	188.3
		5/18/2004	2.1	ND	ND	1.50	46,000	11.3	ND	151	330	10.1	7.9	3.5	1,670	141	ND	258,000	3.9	1.0	3,050	33.8	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	53,000	ND	ND	180	360	ND	ND	ND	2,340	ND	ND	407,000	ND	ND	3,200	ND	ND	ND	ND	ND
		4/26/2005 [9]	2.2	ND	ND	1.50	44,800	16.3	ND	159	445	10.6	11.0	6.8	2,140	137	ND	399,000	4.9	1.4	3,080	36.7	ND	ND	ND	ND
		10/25/2005 [3]	9.3	ND	ND	1.61	57,800	45.0	ND	ND	ND	11.7	ND	ND	1,770	176	ND	362,000	1.5	ND	2,860	5.2	ND	ND	41.6	ND
		4/17/2006 [6]	ND	ND	ND	1.32	47,400	15.9	ND	152	312	7.99	ND	ND	1,450	122	ND	289,000	2.4	ND	2,600	26.6	1.43	ND	ND	ND
		10/19/2006	ND	ND	ND	1.39	45,700	ND	ND	ND	ND	9.88	ND	9.07	1,680	145	ND	262,000	3.2	ND	2,460	34.6	ND	ND	ND	189.48
		4/30/2007	1.19	ND	29.7	1.08	45,000	9.24	1.09	164	456	3.91	ND	ND	1,030	67.3	12.5	231,000	ND	ND	2,690	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	54,400	18.3	ND	211	1,560	22.4	ND	ND	1,860	179	ND	349,000	ND	ND	3,910	ND	ND	ND	ND	ND
		4/16/2008	1.96	ND	ND	1.43	48,500	12.5	ND	175	390	5.74	ND	ND	1,470	84.1	ND	246,000	ND	ND	3,140	11.2	ND	ND	ND	103
		10/23/2008	ND	ND	ND	1.08	43,800	9.07	ND	151	825	4.07	ND	ND	950	77.2	ND	261,000	1.2	ND	1,860	14.1	ND	ND	ND	ND
		4/7/2009	1.81	ND	ND	1.28	45,800	11.9	ND	161	420	5.28	ND	6.91	1,160	73.4	ND	235,000	ND	ND	2,480	11	ND	ND	ND	ND

TABLE 1
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY
HEAT TREATING BUILDING

Parameter			Benzene	Carbon Disulfide	Chloro-methane	1,2-Dichloro-benzene	cis-1,2-Dichloro-ethene	1,1-Dichloro ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene Chloride	PCE	Toluene	1,1,2-Trichloro-ethane	TCE	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes	Bromo-methane	Naptha-lene	n-propyl-benzene	Total BTEX
M&A-105[11]	Shallow	10/24/2001	ND	ND	ND	ND	2,100	ND	ND	2.4	93.0	ND	ND	ND	ND	ND	ND	51.0	ND	ND	1,200	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	2,240	ND	ND	2.0	64.2	ND	ND	ND	2.5	ND	ND	45.0	ND	ND	848	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	1,670	1.0	ND	ND	36.9	ND	ND	ND	ND	ND	ND	28.3	ND	ND	485	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	2,380	ND	ND	1.6	67.2	ND	ND	ND	ND	ND	ND	46.3	ND	ND	800	ND	ND	ND	ND	ND
		10/22/2003	ND	ND	ND	ND	3,080	ND	ND	1.7	100	ND	ND	ND	ND	ND	ND	51.2	ND	ND	952	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	137	ND	ND	ND	5.3	ND	ND	ND	ND	ND	ND	28.2	ND	ND	70.2	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	2,260	ND	ND	ND	110	ND	ND	ND	ND	ND	ND	61.0	ND	ND	865	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	2,310	ND	ND	1.7	130	ND	ND	ND	ND	ND	ND	56.3	ND	ND	806	ND	ND	ND	ND	ND
		10/25/2005	ND	ND	ND	ND	2,330	ND	ND	1.5	106	ND	ND	ND	5.9	ND	ND	62.0	ND	ND	740	ND	ND	ND	ND	ND
		4/19/2006	ND	ND	6.94	ND	751	ND	ND	ND	27.6	ND	ND	ND	ND	ND	ND	10.2	ND	ND	191	ND	ND	ND	ND	ND
		10/19/2006	ND	ND	ND	ND	621	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.6	ND	ND	149	ND	ND	ND	ND	ND
		5/2/2006 [6]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/17/2007	ND	ND	ND	ND	281	ND	ND	ND	4.95	ND	ND	ND	ND	ND	ND	1.7	ND	ND	439	ND	ND	ND	ND	ND
		10/23/2008	ND	ND	ND	ND	127	ND	ND	ND	3.24	ND	ND	ND	ND	ND	ND	4.7	ND	ND	151	ND	ND	ND	ND	ND
		4/7/2009 [11]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M&A-110	Intermed	10/5/2004	ND	ND	ND	ND	89,500	ND	ND	440	150	ND	ND	ND	110	ND	ND	10,400	ND	ND	41,000	ND	ND	ND	ND	ND
		4/26/2005	ND	39.6	ND	1.4	51,000	ND	ND	262	330	2.8	ND	ND	84.4	19.8	ND	12,800	3.2	1.3	65,000	5.1	ND	ND	ND	ND
		10/25/2005 [3]	ND	2.1	ND	1.3	63,500	ND	ND	246	61	2.6	ND	ND	36.7	20.1	ND	6,480	1.2	ND	52,600	3.8	ND	ND	5.4	ND
		4/17/2006 [5]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/19/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/30/2007	1.21	ND	ND	ND	80,200	ND	ND	ND	324	ND	ND	ND	41.7	8.9	ND	7,760	ND	ND	17,200	ND	ND	ND	ND	ND
		10/17/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/23/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/7/2009	1.39	ND	ND	ND	82,200	ND	ND	879	239	1.08	ND	ND	39.8	11.9	ND	3,880	ND	ND	32,400	ND	ND	ND	ND	ND
M&A-111	Intermed	10/2/2002	ND	ND	ND	ND	20,000	ND	ND	1,030	192	ND	ND	ND	2,960	ND	ND	99,600	ND	ND	ND	ND	ND	ND	ND	44.0
		10/23/2003	ND	ND	ND	ND	22,900	ND	ND	610	130	ND	ND	ND	2,170	ND	ND	80,400	12.2	2.4	265	ND	ND	8.8	ND	104
		5/18/2004	ND	ND	ND	ND	44,700	ND	ND	560	200	8.5	ND	ND	1,280	25.8	ND	41,000	4.0	1.2	1,360	25.3	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	80,200	ND	ND	306	96.0	ND	ND	ND	200	ND	ND	2,380	ND	ND	8,600	ND	ND	ND	ND	ND
		4/26/2005	ND	23.4	ND	ND	56,500	ND	ND	190	286	3.3	ND	ND	40.7	10.5	ND	888	2.1	ND	15,400	10.5	ND	ND	ND	ND
		10/25/2005 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/18/2006	ND	ND	ND	ND	18,600	ND	ND	59.6	69	1.38	ND	ND	2.98	5.35	ND	218	ND	ND	1,100	ND	ND	ND	3.96	ND
		10/19/2006	ND	ND	ND	ND	14,000	ND	ND	39.6	ND	1.38	ND	ND	ND	4.3	ND	4.34	ND	ND	1,600	3.84	ND	ND	ND	ND
		4/30/2007	ND	ND	ND	ND	6,370	ND	ND	18.3	18.5	ND	ND	ND	ND	ND	ND	163	ND	ND	9,210	ND	ND	ND	ND	ND
		10/18/2007	1.02	17.9	ND	ND	6,780	ND	ND	20.4	89	2.52	ND	ND	1.48	5.36	ND	94	ND	ND	12,700	ND	ND	ND	ND	ND
		10/17/2007	ND	42.2	ND	ND	6,140	ND	ND	22.5	42	1.45	ND	ND	ND	4.06	ND	120	ND	ND	10,400	4.69	ND	ND	ND	10.2
		10/22/2008	ND	4.33	ND	ND	4,760	ND	ND	12.2	10	1.07	ND	ND	ND	2.62	ND	64	ND	ND	5,170	ND	ND	ND	ND	ND
		4/7/2009	ND	9.8	ND	ND	1,920	ND	N	5.74	3.79	1.37	ND	ND	12.8	3.15	ND	618	ND	ND	5,660	3.98	ND	ND	ND	ND
M&A-112	Shallow	10/25/2001	ND	ND	ND	ND	610	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.0	ND	ND	760	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	464	ND	ND	2.0	ND	ND	ND	ND	ND	ND	ND	51.5	ND	ND	699	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	480	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.0	ND	ND	819	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	101	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.9	ND	ND	11.1	ND	ND	ND	ND	ND
		10/23/2003	ND	ND	ND	ND	135	ND	ND	1.0	2.0	ND	ND	ND	ND	ND	ND	32.0	ND	ND	181	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	22.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	44.2	ND	ND	48.6	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	123	ND	ND	ND	2.5	ND	ND	ND	ND	ND	ND	31.4	ND	ND	157	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	79.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.9	ND	ND	82.8	ND	ND	ND	ND	ND
		10/25/2005 [4]	ND	ND	ND	ND	113	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	88.2	ND	ND	164	ND	ND	ND	ND	ND
		4/18/2006	ND	ND	ND	ND	483	ND	ND	ND	5.3	ND	ND	ND	ND	ND	ND	31.8	ND	ND	216	ND	ND	ND	ND	ND
		10/19/2006	ND	ND	ND	ND	304	ND	ND	ND	6.39	ND	ND	ND	ND	ND	ND	58.3	ND	ND	147	ND	ND	ND	ND	ND
		5/1/2007	ND	ND	ND	ND	514	ND	ND	ND	9.16	ND	ND	ND	ND	ND	ND	176	ND	ND	117	ND	ND	ND	ND	ND
		10/18/2007	ND	ND	ND	ND	890	1.09	ND	ND	13	ND	ND	ND	10.6	1.26	ND	1,590	ND	ND	111	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	856	ND	ND	3.94	7.34	ND	ND	ND	2.91	ND	ND	158	ND	ND	182	ND	3.03	ND	ND	ND
		10/23/2008	ND	ND	ND	ND	5,860	ND	ND	44.6	57.5	ND	ND	ND	240	1.74	ND	1,420	4.34	1.22	468	ND	ND	ND	ND	ND
		4/7/2009	ND	ND	ND	ND	4,910	ND	ND	51.7	49.3	ND	ND	ND	87.6	2.87	ND	1,780	ND	ND	399	ND	ND	ND	ND	ND
M&A-113	Intermed	4/7/2009	ND	ND	ND	1.51	4,030	ND	ND	70	67.7	8.8	10.1	ND	1,460	122	ND	337,000	5.39	1.59	51	37.4	ND	ND	ND	ND
M&A-114	Intermed	10/25/2001	ND	ND	ND	ND	76,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19,000	ND	ND	ND	ND	ND
		5/18/2004 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/5/2004 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/26/2005 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/25/2005 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/17/2006 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/19/2006 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/2/2007 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/17/2007 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/16/2008 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/22/2008 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/7/2009 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY
HEAT TREATING BUILDING

Parameter			Benzene	Carbon Disulfide	Chloro-methane	1,2-Dichloro-benzene	cis-1,2-Dichloro-ethene	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene Chloride	PCE	Toluene	1,1,2-Trichloro-ethane	TCE	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes	Bromo-methane	Naptha-lene	n-propyl-benzene	Total BTEX
M&A-115	Intermed	10/25/2001	ND	ND	ND	ND	41.0	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND	2.2	ND	ND	6.1	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	21.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	21.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	1.7	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	18.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	1.9	ND	ND	ND	ND	ND
		10/23/2003	ND	ND	ND	ND	31.7	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	2.4	ND	ND	4.0	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	21.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.8	ND	ND	ND	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	13.7	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	1.9	ND	ND	ND	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	15.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	ND	ND	4.0	ND	ND	ND	ND	ND
		10/25/2005	ND	ND	ND	ND	13.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.0	ND	ND	ND	ND	ND
		4/19/2006	ND	ND	ND	ND	11.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	ND	ND	ND	ND	ND	ND	ND	ND
		10/19/2006	ND	ND	ND	ND	9.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.29	ND	ND	ND	ND	ND
		5/2/2007 [5]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/18/2007	ND	ND	ND	ND	199	ND	ND	ND	1.96	ND	ND	ND	ND	ND	ND	2.22	ND	ND	18	ND	ND	ND	ND	ND
		10/22/2008	ND	ND	ND	ND	393	ND	ND	ND	2.94	ND	ND	ND	ND	ND	ND	3.41	ND	ND	ND	ND	ND	ND	ND	ND
		4/8/2009	ND	ND	ND	ND	179	ND	N	ND	3.00	ND	ND	ND	2.26	ND	ND	334	ND	ND	2.33	ND	ND	ND	ND	ND
M&A-116	Shallow	10/24/2001	ND	ND	ND	ND	10.0	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	4.5	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	11.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.1	ND	ND	ND	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	14.4	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND	9.6	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	11.6	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	12.0	ND	ND	ND	ND	ND	ND	ND	ND
		10/23/2003	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	3.5	ND	ND	ND	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	8.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	7.1	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	10.4	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	7.9	ND	ND	ND	ND	ND	ND	ND	ND
		10/25/2005	ND	ND	ND	ND	7.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	ND	ND	ND	ND	ND	ND	ND	ND
		4/18/2006	ND	ND	ND	ND	11.8	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	11.2	ND	ND	ND	ND	ND	ND	ND	ND
		10/18/2006	ND	ND	ND	ND	16.9	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	14.4	ND	ND	ND	ND	ND	ND	ND	ND
		5/1/2007	ND	ND	ND	ND	22.2	ND	ND	ND	2.35	ND	ND	ND	ND	ND	ND	22.6	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	22.1	ND	ND	ND	2.87	ND	ND	ND	ND	ND	ND	15.4	ND	ND	ND	ND	ND	ND	ND	ND
		4/16/2008	ND	ND	ND	ND	20.9	ND	ND	ND	2.69	ND	ND	ND	ND	ND	ND	18.9	ND	ND	ND	ND	ND	ND	ND	ND
		10/22/2008	ND	ND	ND	ND	39.9	ND	ND	ND	5.27	ND	ND	ND	ND	ND	ND	42.7	ND	ND	ND	ND	ND	ND	ND	ND
		4/6/2009	ND	ND	ND	ND	19.8	ND	ND	ND	2.26	ND	ND	ND	ND	ND	ND	17.9	ND	ND	ND	ND	ND	ND	ND	ND
M&A-118	Shallow	10/28/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.3	ND	ND	ND	ND	ND	ND	ND	ND
M&A-119[11]	Intermed	10/25/2001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/23/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	ND	ND	ND	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	2.4	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND
		10/25/2005	ND	ND	ND	ND	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	ND	ND	ND	ND	ND
		4/18/2006	ND	ND	ND	ND	4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	3.2	ND	ND	ND	ND	ND
		10/18/2006	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND
		4/30/2007	ND	ND	ND	ND	1.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.28	ND	ND	ND	ND	ND
		10/18/2007	ND	ND	ND	ND	25.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	45.9	ND	ND	23.1	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	252	ND	ND	1.28	2.84	ND	ND	ND	11.8	1.14	ND	2,750	ND	ND	12.4	ND	ND	ND	ND	ND
		10/23/2008	ND	ND	ND	ND	5	ND	ND	ND	1.88	ND	ND	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	ND
M&A-120	Shallow	10/24/2001	ND	ND	ND	ND	400	ND	ND	1.3	47.0	ND	ND	ND	ND	ND	ND	18.0	ND	ND	63.0	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	462	ND	ND	ND	41.4	ND	ND	ND	ND	ND	ND	30.8	ND	ND	40.3	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	594	ND	ND	ND	42.0	ND	ND	ND	ND	ND	ND	32.0	ND	ND	35.0	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	269	ND	ND	ND	35.6	ND	ND	ND	ND	ND	ND	18.6	ND	ND	23.4	ND	ND	ND	ND	ND
		10/22/2003	ND	ND	ND	ND	810	ND	ND	1.4	58.4	ND	ND	ND	ND	ND	ND	38.0	ND	ND	52.6	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	42.5	ND	ND	ND	4.4	ND	ND	ND	ND	ND	ND	24.4	ND	ND	4.1	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	608	ND	ND	ND	55.5	ND	ND	ND	ND	ND	ND	27.6	ND	ND	44.0	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	438	ND	ND	ND	49.4	ND	ND	ND	ND	ND	ND	27.4	ND	ND	34.7	ND	ND	ND	ND	ND
		10/25/2005	ND	ND	ND	ND	392	ND	ND	ND	51.4	ND	ND	ND	ND	ND	ND	70.9	ND	ND	34.8	ND	ND	ND	ND	ND
		4/19/2006	ND	ND	ND	ND	319	ND	ND	ND	38.4	ND	ND	ND	ND	ND	ND	20.7	ND	ND	18.4	ND	ND	ND	ND	ND
		10/18/2006	ND	ND	ND	ND	245	ND	ND	ND	28.9	ND	ND	ND	ND	ND	ND	19.4	ND	ND	12.1	ND	ND	ND	ND	ND
		5/1/2007	ND	ND	ND	ND	229	ND	ND	ND	34.3	ND	ND	ND	ND	ND	ND	18.5	ND	ND	11.5	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	309	ND	ND	ND	43	ND	ND	ND	ND	ND	ND	23.7	ND	ND	16.7	ND	ND	ND	ND	ND
		4/16/2008	ND	ND	ND	ND	200	ND	ND	ND	30.4	ND	ND	ND	ND	ND	ND	19.5	ND	ND	9.85	ND	ND	ND	ND	ND
		10/22/2008	ND	ND	ND	ND	363	ND	ND	ND	43.6	ND	ND	ND	ND	ND	ND	33.2	ND	ND	14.80	ND	ND	ND	ND	ND
		4/6/2009	ND	ND	ND	ND	193	ND	N	ND	27.6	ND	ND	ND	ND	ND	ND	16.9	ND	ND	6.71	ND	ND	ND	ND	ND
M&A-121	Intermed	10/24/2001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/22/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/25/2005	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/18/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	ND	ND	ND	ND	ND	ND	ND	ND
		10/18/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.27	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/16/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/22/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	ND	ND	ND	ND	ND	ND
		4/7/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.06	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 1
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY
HEAT TREATING BUILDING

Parameter			Benzene	Carbon Disulfide	Chloro-methane	1,2-Dichloro-benzene	cis-1,2-Dichloro-ethene	1,1-Dichloro ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene Chloride	PCE	Toluene	1,1,2-Trichloro-ethane	TCE	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes	Bromo-methane	Naptha-lene	n-propyl-benzene	Total BTEX
M&A-122	Intermed	10/25/2001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/23/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND
		4/26/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/25/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/19/2006 (1)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/18/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.1	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2007	ND	ND	ND	ND	3.84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.87	ND	ND	2.93	ND	ND	ND	ND	ND
		4/16/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/22/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.62	ND	ND	ND	ND	ND	ND	ND	ND
		4/9/2009	ND	ND	ND	ND	2.61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-124	Shallow	4/16/2008	ND	ND	ND	ND	4.72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33	ND	ND	ND	ND	ND	ND	ND	ND
		4/7/2009	ND	ND	ND	ND	2.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04	ND	ND	ND	ND	ND	ND	ND	ND
M&A-126	Intermed	5/30/2001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/25/2001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/2/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/23/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/5/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/26/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/25/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/18/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/18/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.41	ND	ND	ND	ND	ND	ND	ND	ND
		4/30/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/18/2007	ND	ND	ND	ND	9.6	ND	ND	ND	ND	ND	ND	ND	3.03	ND	ND	138	ND	ND	5.05	ND	ND	ND	ND	ND
		4/16/2008	ND	ND	ND	ND	8.63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.71	ND	ND	ND	ND	ND
		10/23/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/7/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-127	Intermed	10/28/2008	ND	ND	ND	ND	2.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/9/2009 (11)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M&A-130	Shallow	12/19/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/29/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-131	Intermed	10/29/2008	ND	1.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/9/2009	ND	ND	ND	ND	8.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	68.3	ND	ND	ND	ND	ND	ND	ND	ND
M&A-133	Shallow	12/19/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/28/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.68	ND	ND	ND	ND	ND	ND	ND	ND
M&A-208	Shallow	10/28/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-301	Shallow	6/30/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/7/2009 (13)	ND	ND	ND	ND	ND	13.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.02	ND	ND	ND	ND	ND	ND	ND	ND
MW-6	Shallow	10/28/2008	ND	ND	ND	ND	128	ND	ND	ND	21.9	ND	ND	ND	ND	ND	ND	9.58	ND	ND	27.5	ND	ND	ND	ND	ND
		4/8/2009 (12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-10	Intermed	10/28/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes: All results are in µg/l - micrograms per liter

ND Not Detected Above Laboratory Method Reporting Limit

\- Not Sampled

Shading indicates compound exceeds applicable IEPA-established Groundwater Remediation Objectives

PCE Tetrachloroethene

TCE Trichloroethane

(1) Chlorobenzene was detected in this sample at a concentration of 1.1 ug/L.
(2) Not sampled - no groundwater present in monitoring well only free product observed in monitoring well.
(3) Isopropylbenzene was detected in M&A-104 and M&A-110 at 2.2 and 2.0 ug/L respectively.
(4) Chloroethane was detected in M&A-112 at 1.3 ug/L.
(5) Not sampled, well was dry.
(6) 1,2-Dichloroethane was also detected at a concentration of 1.0 ug/L.
(7) Bromoform, Chlorodibromomethane, cis-1.3-Dichloropropene, trans-1,3-Dichloropropene, and Styrene were also detected at concentrations of 5.8 ug/L, 3.4 ug/L. 3.2 ug/L, 4.5 ug/L, and 1.3 ug/L, respectively.
(8) Not sampled, obstuction in well.
(9) Carbon tetrachloride was detected in this sample at a concentration of 1.0 ug/L.
(10) Chloroethane detected at a concentration of 1.31 µg/L during the April 2009 sampling event.
(11) Well closed in place in December 2008 due to new furnace line installation.
(12) 1,1,1-Trichloroethane was detected at a concentration of 14.3 µg/L during the April 2009 Sampling Event.
(13) Well was dry during the April 2009 sampling event.
(14) Chloroform was detected at a concentration os 1.02 µg/L during the October 2008 sampling event.

Table 3
Heat Treat Building
Summary of Wells and Proposed Actions

Monitoring Wells: (42) Wells	Aquifer	Recovery Wells: (2) Wells	Currently Included in Semi-Annual Sampling Program: (15) Wells		Currently Included in Extended Sampling Program: (31) Wells		Closed in Place 12/08: (4) Wells	Proposed to Exclude From Semi-Annual Sampling Program: (7) Wells	Proposed to Continue in the Semi-Annual Sampling Program: (8) Wells
			X = Yes	04/09 Sample Exceeded GRO's	X = Yes	10/08 sample Exceeded GRO's			
MCA-2	Shallow		X		X				
MCA-5	Shallow		X		X	X			X
M&A-103	Shallow		X		X		X	X	
M&A-104	Shallow		X	X	X	X			X
M&A-105	Shallow		X		X		X	X	
M&A-107	Shallow		X					X	
M&A-111	Intermediate		X	X	X	X			X
M&A-112	Shallow		X		X				X
M&A-115	Intermediate		X		X				X
M&A-116	Shallow		X		X				X
M&A-119	Intermediate		X		X		X	X	
M&A-120	Shallow		X		X			X	
M&A-121	Intermediate		X		X			X	
M&A-122	Intermediate		X		X				X
M&A-126	Intermediate		X		X				X
MW-6	Shallow				X				
MW-10	Intermediate				X				
MCA-1	Shallow				X				
MCA-3	Shallow				X				
MCA-4	Shallow				X				
M&A-101	Intermediate				X				
M&A-102	Shallow				X	X			
M&A-110	Intermediate				X	X			
M&A-118	Shallow				X				
M&A-124	Shallow				X				
M&A-127	Intermediate				X		X		
M&A-127	Intermediate				X				
M&A-130	Shallow				X				
M&A-131	Intermediate				X				
M&A-133	Shallow				X				
M&A-208	Shallow				X				
M&A-301	Shallow				X				
M&A-113	Intermediate	X							
M&A-114	Intermediate	X							
MW-9									
M&A-106									
M&A-109									
M&A-117									
M&A-123									
M&A-125									
M&A-134									
M&A-135									

TABLE 4
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER DATA ANALYTICAL SUMMARY
SALT & GANTRY BUILDINGS

Well	Aquifer	Sample Date	Cyanide	Acetone	Chloro-form	1,1 Dichloro-ethane	1,2-Dichloro-ethane	cis 1,2 Dichloro-ethene	1,1 Dichloro-ethene	trans 1,2 Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene-chloride	PCE	Toluene	1,1,2-Trichloro-ethane	1,1,1-Trichloro-ethane	TCE	Xylenes	Vinyl Chloride	Bromo-methane	Chloro-methane	Total BTEX
			(mg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
		Est. GRO for Shallow Aquifer	0.685	NSL	12.3	NSL	NSL	2,500	NSL	NSL	NSL	NSL	NSL	Shallow-39 Interm.-29	NSL	NSL	NSL	45,000	NSL	880	NSL	NSL	NSL
Gantry Silo [7]	Shallow	10/18/2006	0.035	ND	ND	ND	ND	6.47	ND	ND	ND	ND	ND	ND	ND	ND	ND	113	ND	6.65	ND	ND	ND
		5/1/2007	0.076	ND	ND	ND	ND	1.67	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.69	ND	4.4	ND	ND	ND
		10/18/2007	0.066	ND	ND	ND	ND	1.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.69	ND	ND	ND
		4/15/2008	0.068	ND	ND	ND	ND	1.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.3	ND	ND	ND
		10/21/2008	0.412	ND	ND	ND	ND	7.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.94	ND	ND	ND
		4/9/2009	0.037	ND	ND	ND	ND	40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.61	ND	ND	ND
M&A-201	Shallow	7/27/1993	0.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/6/1994	0.220	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2006	0.030	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/28/2008	0.040	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-202	Intermediate	7/28/1993	0.007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/7/1994	0.043	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		9/11/1997	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2006	0.126	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/28/2008	0.054	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.75	ND	ND	ND	ND	ND
M&A-203 [1]	Shallow	7/28/1993	0.152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/6/1994	0.057	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		9/10/1997	0.498	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2006	0.122	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/28/2008	0.304	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-204	Intermediate	7/28/1993	0.053	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/6/1994	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		9/10/1997	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/28/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-205	Shallow	7/28/1993	0.172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/6/1994	0.042	ND	ND	1.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2006	0.146	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.14	ND	ND	ND	ND	ND
		10/28/2008	0.216	ND	ND	1.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.20	ND	ND	ND	ND	ND
M&A-206	Intermediate	7/28/1993	0.408	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		12/6/1994	0.170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.70	ND	ND	ND	ND	ND
		9/11/1997	0.044	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.90	ND	ND	ND	ND	ND
		5/30/2001	-	ND	ND	ND	ND	1.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.0	ND	ND	ND	ND	ND
		10/24/2001	-	ND	ND	ND	ND	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	25.0	ND	ND	ND	ND	ND
		5/1/2002	-	ND	ND	ND	ND	3.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.4	ND	ND	ND	ND	ND
		10/3/2002	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	33.5	ND	ND	ND	ND	ND
		4/23/2003	-	ND	ND	ND	ND	1.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.2	ND	ND	ND	ND	ND
		10/22/2003	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.3	ND	ND	ND	ND	ND
		5/18/2004	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.0	ND	ND	ND	ND	ND
		10/5/2004	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.4	ND	ND	ND	ND	ND
		4/25/2005	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.4	ND	ND	ND	ND	ND
		10/24/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.6	ND	ND	ND	ND	ND
		4/18/2006	ND	ND	ND	ND	ND	4.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.2	ND	ND	ND	ND	ND
		10/18/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.5	ND	ND	ND	ND	ND
		5/2/2007	0.008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.4	ND	ND	ND	ND	ND
		10/16/2007	0.014	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.46	ND	ND	ND	ND	ND
		4/15/2008	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.04	ND	ND	ND	ND	ND
		10/21/2008	0.013	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.84	ND	ND	ND	ND	ND
		4/8/2009	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.58	ND	ND	ND	ND	ND
M&A-207	Shallow	7/27/1993	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/6/1994	11.3	ND	12.6	ND	ND	25.0	ND	ND	ND	ND	ND	38.9	ND	ND	ND	3,300	ND	ND	ND	ND	ND
		9/11/1997	9.60	ND	ND	ND	ND	25.0	ND	ND	ND	ND	ND	39.6	ND	ND	ND	3,500	ND	ND	ND	ND	ND
		9/20/2000	9.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,700	ND	ND	ND	ND	ND
		5/30/2001	10.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,100	ND	ND	ND	ND	ND
		10/24/2001	8.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	360	ND	ND	ND	ND	ND
		5/1/2002	8.7	ND	ND	ND	ND	14.3	ND	2.10	ND	ND	ND	6.00	ND	ND	ND	322	ND	ND	ND	ND	ND
		10/3/2002	27.5	ND	4.80	ND	ND	21.7	2.10	3.50	ND	ND	ND	38.3	ND	ND	ND	2,120	ND	2.00	ND	ND	ND
		4/23/2003	60.4	ND	5.40	ND	ND	39.4	1.40	4.20	ND	ND	ND	47.3	ND	ND	ND	1,980	ND	ND	ND	ND	ND
		10/23/2003	19.1	ND	2.00	ND	ND	255	1.20	6.20	ND	ND	ND	36.4	ND	ND	ND	1,400	ND	5.30	ND	ND	ND
		5/18/2004	7.67	ND	1.80	ND	ND	310	1.60	8.10	ND	ND	ND	26.6	ND	ND	ND	1,520	ND	ND	ND	ND	ND
		10/5/2004	7.07	ND	2.60	ND	ND	94.3	ND	2.50	ND	ND	ND	14.6	ND	ND	ND	881	ND	7.40	ND	ND	ND
		4/25/2005	12.0	ND	1.10	ND	ND	62.2	ND	3.40	ND	ND	ND	23.7	ND	ND	ND	1,070	ND	ND	ND	ND	ND
		10/24/2005	12.1	ND	ND	ND	ND	49.1	ND	2.60	ND	ND	ND	2.10	ND	ND	ND	987	ND	1.50	ND	ND	ND
		4/18/2006	6.13	ND	ND	ND	ND	54.1	ND	3.02	ND	ND	ND	18.9	ND	ND	ND	946	ND	ND	ND	ND	ND
		10/18/2006	3.24	ND	ND	ND	ND	5.67	ND	ND	ND	ND	ND	4.84	ND	ND	ND	197	ND	ND	ND	ND	ND
		5/2/2007	3.69	ND	ND	ND	ND	3.05	ND	ND	ND	ND	ND	1.59	ND	ND	ND	62	ND	ND	ND	ND	ND
		10/16/2007	4.82	ND	ND	ND	ND	22.9	ND	ND	ND	ND	ND	16.1	ND	ND	ND	618	ND	ND	ND	ND	ND
		4/15/2008	1.44	ND	ND	ND	ND	34.2	ND	2.37	ND	ND	ND	8.70	1.06	ND	ND	2,040	ND	ND	ND	ND	1.06
		10/20/2008	27.0	ND	ND	ND	ND	9.42	ND	1.05	ND	ND	ND	5.89	ND	ND	ND	265	ND	ND	ND	ND	ND
		4/8/2009	1.98	ND	ND	ND	ND	4.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	148	ND	ND	ND	ND	ND

TABLE 4
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER DATA ANALYTICAL SUMMARY
SALT & GANTRY BUILDINGS

Well	Aquifer	Sample Date	Cyanide	Acetone	Chloro-form	1,1 Dichloro-ethane	1,2-Dichloro-ethane	cis 1,2 Dichloro-ethene	1,1 Dichloro-ethene	trans 1,2 Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene-chloride	PCE	Toluene	1,1,2-Trichloro-ethane	1,1,1-Trichloro-ethane	TCE	Xylenes	Vinyl Chloride	Bromo-methane	Chloro-methane	Total BTEX
		Est. GRO for Shallow Aquifer	(mg/L) 0.685	(µg/L) NSL	(µg/L) 12.3	(µg/L) NSL	(µg/L) NSL	(µg/L) 2,500	(µg/L) NSL	(µg/L) NSL	(µg/L) NSL	(µg/L) NSL	(µg/L) NSL	(µg/L) Shallow-39 Interm.-29	(µg/L) NSL	(µg/L) NSL	(µg/L) NSL	(µg/L) 45,000	(µg/L) NSL	(µg/L) 880	(µg/L) NSL	(µg/L) NSL	(µg/L) NSL
M&A-208	Shallow	12/6/1994	0.007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/18/2006	0.076	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/28/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-209	Shallow	12/6/1994	0.049	ND	ND	ND	ND	13.0	ND	1.20	ND	ND	ND	3.30	ND	ND	11.0	100	ND	3.10	ND	ND	ND
		10/18/2006	0.842	ND	ND	ND	ND	24.6	ND	1.66	ND	ND	ND	9.83	ND	ND	4.66	284	ND	ND	ND	ND	ND
		10/28/2008	0.352	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.00	ND	ND	3.17	246	ND	ND	ND	ND	ND
M&A-211 [2]	Shallow	12/15/1993	0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/6/1994	0.003	ND	ND	ND	ND	1,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	198	ND	880	ND	ND	ND
		9/10/1997	ND	ND	ND	ND	ND	2,500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		9/19/2000	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/30/2001	0.021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/25/2001	0.432	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/1/2002	0.222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/3/2002	0.105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/23/2003	0.106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/22/2003	0.071	ND	ND	ND	ND	100	1.1	79.6	ND	ND	ND	ND	ND	ND	ND	280	ND	135	ND	ND	ND
		5/18/2004	0.074	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/5/2004	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/25/2005	0.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/24/2005	0.046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/18/2006	0.062	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/17/2006	0.047	ND	ND	ND	ND	1,070	ND	19.4	ND	ND	ND	ND	ND	ND	ND	71.5	ND	139	ND	ND	ND
		5/2/2007	0.037	ND	ND	ND	ND	3,030	3.36	119	ND	ND	ND	5.53	1.4	ND	ND	1,690	ND	431	ND	ND	1.4
		6/6/2007	-	ND	ND	ND	ND	3,810	3.78	155	ND	ND	ND	ND	ND	ND	ND	944	ND	627	ND	ND	ND
		10/16/2007	0.024	ND	ND	ND	ND	5,710	ND	264	ND	ND	ND	ND	ND	ND	ND	1,060	ND	1,080	ND	ND	ND
		4/15/2008	0.034	ND	ND	ND	ND	3,590	3.46	149	ND	ND	ND	ND	ND	ND	ND	652	ND	687	ND	ND	ND
		10/21/2008	0.099	ND	ND	ND	ND	5,280	6.51	370	ND	ND	ND	ND	ND	ND	ND	1,190	ND	1,320	ND	ND	ND
		4/8/2009	0.069	ND	ND	ND	ND	2,140	6.67	55	ND	ND	ND	75.5	7.6	ND	ND	9,330	ND	354	ND	ND	ND
M&A-212 [3]	Shallow	12/15/1993	0.045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/6/1994	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M&A-213	Shallow	12/6/1994	0.060	ND	ND	ND	ND	45.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.4	ND	4.30	ND	ND	ND
		9/10/1997	0.131	ND	ND	ND	ND	70.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.0	ND	6.00	ND	ND	ND
		9/19/2000	0.053	ND	ND	ND	ND	27.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.90	ND	ND	ND	ND	ND
		5/30/2001	0.515	ND	ND	ND	ND	27.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.1	ND	ND	ND	ND	ND
		10/24/2001	0.222	ND	ND	ND	ND	21.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.0	ND	ND	ND	ND	ND
		5/1/2002	0.321	ND	ND	ND	ND	13.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.8	ND	ND	ND	ND	ND
		10/3/2002	0.132	ND	ND	ND	ND	21.8	ND	1.80	ND	ND	ND	ND	ND	ND	ND	21.1	ND	1.70	ND	ND	ND
		4/23/2003	0.205	ND	ND	ND	ND	14.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.7	ND	ND	ND	ND	ND
		10/22/2003	0.123	ND	ND	ND	ND	22.4	ND	1.70	ND	ND	ND	ND	ND	ND	ND	16.0	ND	ND	ND	ND	ND
		5/18/2004	0.092	ND	ND	ND	ND	14.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.1	ND	ND	ND	ND	ND
		10/5/2004	0.005	ND	ND	ND	ND	26.4	ND	2.50	ND	ND	ND	ND	ND	ND	ND	13.9	ND	1.60	ND	ND	ND
		4/25/2005	0.077	ND	ND	ND	ND	7.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.60	ND	ND	ND	ND	ND
		10/24/2005	0.071	ND	ND	ND	ND	ND	ND	2.30	ND	ND	ND	ND	ND	ND	ND	9.50	ND	1.20	ND	ND	ND
		4/18/2006	0.038	ND	ND	ND	ND	24.0	ND	2.74	ND	ND	ND	ND	ND	ND	ND	8.77	ND	ND	ND	ND	ND
		10/18/2006	0.036	ND	ND	ND	ND	5.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.89	ND	ND	ND	ND	ND
		5/1/2007	0.089	ND	ND	ND	ND	6.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.66	ND	ND	ND	ND	ND
		10/16/2007	0.078	ND	ND	ND	ND	164	ND	ND	ND	ND	ND	ND	ND	ND	ND	33.3	ND	28.7	ND	ND	ND
		4/25/2008	0.033	ND	ND	ND	ND	19.8	ND	1.47	ND	ND	ND	6.21	1.05	ND	ND	1,070	ND	ND	ND	ND	1.05
		10/21/2008	0.040	ND	ND	ND	ND	18.5	ND	2.81	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND
		4/8/2009	0.030	ND	ND	ND	ND	6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.36	ND	ND	ND	ND	ND
M&A-214	Shallow	12/6/1994	0.043	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.2	ND	ND	ND	ND	ND
		9/11/1997	0.336	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23	ND	ND	ND	ND	ND
		9/19/2000	0.709	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	37.0	ND	ND	ND	ND	ND
		6/5/2001	4.37	ND	ND	ND	ND	1.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	54.0	ND	ND	ND	ND	ND
		10/24/2001	2.10	ND	ND	ND	ND	2.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	90.0	ND	ND	ND	ND	ND
		5/1/2002	1.82	ND	ND	ND	ND	6.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	80.7	ND	ND	ND	ND	ND
		10/3/2002	0.370	ND	ND	ND	ND	2.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	41.4	ND	ND	ND	ND	ND
		4/23/2003	0.339	ND	ND	ND	ND	2.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.50	ND	ND	ND	ND	ND
		5/18/2004	0.356	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.8	ND	ND	ND	ND	ND
		10/5/2004	0.522	ND	ND	ND	ND	3.80	ND	ND	ND	ND	ND	ND	ND	ND	4.20	36.1	ND	ND	ND	ND	ND
		4/25/2005	0.006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/24/2005	0.091	ND	ND	ND	ND	8.70	ND	ND	ND	ND	ND	ND	ND	ND	8.00	49.9	ND	ND	ND	ND	ND
		4/18/2006	0.097	ND	ND	ND	1.67	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.00	ND	ND	ND	ND	ND
		10/18/2006	0.138	ND	ND	ND	ND	18.0	ND	1.47	ND	ND	ND	ND	ND	ND	12.8	116	ND	ND	ND	ND	ND
		5/2/2007	0.047	ND	ND	ND	ND	19.1	ND	1.67	ND	ND	ND	ND	ND	ND	13.8	116	ND	ND	ND	ND	ND
		10/16/2007	0.044	ND	ND	ND	ND	17.2	ND	1.56	ND	ND	ND	10.5	1.07	ND	11.1	1,120	ND	ND	ND	ND	1.07
		4/15/2008	0.033	ND	ND	ND	ND	5.1	ND	ND	ND	ND	ND	ND	ND	ND	9.71	90.1	ND	ND	ND	ND	ND
		10/21/2008	0.455	ND	ND	ND	ND	5.99	ND	ND	ND	ND	ND	ND	ND	ND	12.1	118	ND	ND	ND	ND	ND
		4/8/2009	0.087	ND	ND	ND	ND	2.30	ND	ND	ND	ND	ND	ND	ND	ND	9.71	101	ND	ND	ND	ND	ND

TABLE 4
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER DATA ANALYTICAL SUMMARY
SALT & GANTRY BUILDINGS

Well	Aquifer	Sample Date	Cyanide	Acetone	Chloro-form	1,1 Dichloro-ethane	1,2-Dichloro-ethane	cis 1,2 Dichloro-ethene	1,1 Dichloro-ethene	trans 1,2 Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene-chloride	PCE	Toluene	1,1,2-Trichloro-ethane	1,1,1-Trichloro-ethane	TCE	Xylenes	Vinyl Chloride	Bromo-methane	Chloro-methane	Total BTEX
		Est. GRO for Shallow Aquifer	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
			0.685	NSL	12.3	NSL	NSL	2,500	NSL	NSL	NSL	NSL	NSL	Shallow-39 Interm.-29	NSL	NSL	NSL	45,000	NSL	880	NSL	NSL	NSL
M&A-215	Intermediate	12/6/1994	0.031	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		9/11/1997	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/30/2001	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/2001	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/1/2002	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/3/2002	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/22/2003	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/18/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/25/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/18/2006	0.011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/18/2006	0.007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2007	0.024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/16/2007	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND
		4/15/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/21/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/8/2009	ND	ND	ND	ND	ND	3.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	52.7	ND	ND	ND	ND	ND
M&A-216	Shallow	2/11/1998	14.0	-	-	-	-	25.0	-	-	-	-	-	ND	-	-	-	29.0	-	47.0	-	-	-
		9/19/2000	25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/30/2001	17.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/25/2001	13.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/1/2002	10.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/3/2002	13.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/23/2003	8.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/22/2003	10.2	ND	1.500	ND	ND	165	3.70	22.5	ND	ND	ND	1.20	ND	ND	ND	695	ND	38.6	ND	ND	ND
		5/19/2004	1.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/5/2004	6.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/25/2005	3.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/24/2005	7.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/15/2006	13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/17/2006	5.72	ND	1.210	ND	ND	147	2.03	23.9	ND	ND	ND	1.19	ND	ND	ND	454	ND	22.4	ND	ND	ND
		5/1/2007	4.62	ND	ND	ND	ND	130	1.42	17.1	ND	ND	ND	ND	ND	ND	ND	305	ND	1.68	ND	ND	ND
		10/16/2007	0.316	ND	ND	ND	ND	156	ND	18.1	ND	ND	ND	ND	ND	ND	ND	718	ND	62.1	ND	ND	ND
		4/15/2008	0.471	ND	ND	ND	16.2	ND	ND	2.66	ND	ND	ND	ND	ND	ND	ND	64.7	ND	ND	ND	ND	ND
		10/21/2008	0.360	ND	ND	ND	ND	13.7	ND	1.66	ND	ND	ND	ND	ND	ND	ND	27.2	ND	104	ND	ND	ND
		4/9/2009	0.084	ND	ND	ND	ND	66.4	1.19	10.6	ND	ND	ND	ND	ND	ND	ND	176.0	ND	11.2	ND	ND	ND
M&A-217	Shallow	2/11/1998	7.60	-	-	-	-	35	-	-	-	-	-	ND	-	-	-	24.0	-	11.0	-	-	-
		9/19/2000	8.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/30/2001	6.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/25/2001	7.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/1/2002	6.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/3/2002	7.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/23/2003	5.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/22/2003	7.62	ND	ND	ND	ND	102	ND	156	ND	ND	ND	ND	ND	ND	ND	121	ND	17.7	ND	ND	ND
		5/19/2004	3.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/5/2004	7.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/25/2005	7.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/24/2005	7.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/15/2006	1.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/17/2006	1.26	ND	ND	ND	ND	29.4	ND	14.4	ND	ND	ND	ND	ND	ND	ND	86.9	ND	4.53	ND	ND	ND
		5/1/2007	0.881	ND	ND	ND	ND	78.1	1.76	34	ND	ND	ND	1.26	ND	ND	ND	238	ND	7.81	ND	ND	ND
		10/16/2007	0.698	ND	ND	ND	ND	23.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.5	ND	33.3	ND	ND	ND
		4/15/2008	0.202	ND	ND	ND	ND	6.83	ND	4.4	ND	ND	ND	ND	ND	ND	ND	11.0	ND	1.34	ND	ND	ND
		10/21/2008	0.024	ND	ND	ND	ND	1.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.74	ND	ND	ND	ND	ND
		4/9/2009	0.371	ND	ND	ND	ND	7.3	ND	4.04	ND	ND	ND	ND	ND	ND	ND	11.7	ND	1.04	ND	ND	ND
M&A-218	Shallow	2/11/1998	2.80	ND	ND	ND	ND	4.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		9/19/2000	2.79	ND	ND	ND	ND	3.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/30/2001	2.05	ND	ND	ND	ND	4.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.7	ND	ND	ND	ND	ND
		10/25/2001	1.96	ND	ND	ND	ND	2.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	23.0	ND	ND	ND	ND	ND
		5/1/2002	1.84	ND	ND	ND	ND	3.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.2	ND	ND	ND	ND	ND
		10/3/2002	2.46	ND	ND	ND	ND	4.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.0	ND	ND	ND	ND	ND
		4/23/2003	2.10	ND	ND	ND	ND	6.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	34.2	ND	ND	ND	ND	ND
		5/18/2004	3.23	ND	ND	ND	ND	1.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.30	ND	ND	ND	ND	ND
		10/5/2004	0.867	ND	ND	ND	ND	1.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.6	ND	ND	ND	ND	ND
		4/25/2005	2.69	ND	ND	ND	ND	1.80	ND	ND	ND	ND	ND	1.00	ND	ND	ND	44.4	ND	ND	ND	ND	ND
		10/24/2005	7.92	ND	ND	ND	ND	3.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	31.8	ND	ND	ND	ND	ND
		5/15/2006	10.3	ND	ND	ND	ND	2.61	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.5	ND	ND	ND	ND	ND
		10/18/2006	8.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.0	ND	ND	ND	ND	ND
		5/1/2007	3.06	ND	ND	ND	ND	19.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.9	ND	ND	ND	ND	ND
		10/16/2007	4.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.8	ND	ND	ND	ND	ND
		4/15/2008	1.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.19	ND	ND	ND	ND	ND
		10/21/2008	1.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.64	ND	ND	ND	ND	ND
		4/9/2009	0.221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.40	ND	ND	ND	ND	ND

TABLE 4
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER DATA ANALYTICAL SUMMARY
SALT & GANTRY BUILDINGS

Well	Aquifer	Sample Date	Cyanide	Acetone	Chloro-form	1,1 Dichloro-ethane	1,2-Dichloro-ethane	cis 1,2 Dichloro-ethene	1,1 Dichloro-ethene	trans 1,2 Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene-chloride	PCE	Toluene	1,1,2-Trichloro-ethane	1,1,1-Trichloro-ethane	TCE	Xylenes	Vinyl Chloride	Bromo-methane	Chloro-methane	Total BTEX
		Est. GRO for Shallow Aquifer	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
			0.685	NSL	12.3	NSL	NSL	2,500	NSL	NSL	NSL	NSL	NSL	Shallow-39 Interm.-29	NSL	NSL	NSL	45,000	NSL	880	NSL	NSL	NSL
M&A-219 [4]	Shallow	9/10/1997	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		9/20/2000	0.053	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/30/2001	0.017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/25/2001	0.240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/1/2002	0.132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/3/2002	0.490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/23/2003	1.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/22/2003	3.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.80	ND	ND	ND	ND	ND
		5/19/2004	1.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/5/2004	1.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/25/2005	0.237	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/24/2005	0.561	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/18/2006	0.116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/17/2006	0.042	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2007	0.222	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		6/6/2007	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16,300	ND	2.52	ND	ND	5.06
		10/16/2007	0.131	ND	ND	ND	ND	89.1	ND	ND	ND	ND	ND	26.0	5.06	ND	ND	38	ND	ND	ND	ND	ND
		4/15/2008	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13,800	ND	ND	ND	ND	10.3
		10/21/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	191	10.3	ND	ND	1.92	ND	ND	ND	ND	ND
		4/8/2009	0.040	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-220 [6]	Shallow	9/10/1997	ND	-	ND	ND	-	ND	ND	ND	-	-	-	ND	-	-	ND	ND	-	ND	-	-	-	-
M&A-221	Shallow	9/11/1997	0.350	-	-	-	ND	2.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		9/20/2000	0.418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/30/2001	0.309	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/25/2001	0.073	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/1/2002	0.505	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/3/2002	0.210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/23/2003	0.262	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/22/2003	0.272	ND	ND	ND	ND	16.7	ND	1.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.1	ND	ND	ND
		5/19/2004	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/5/2004	0.255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/25/2005	0.259	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/24/2005	0.256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/18/2006	0.171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/17/2006	0.017	ND	ND	ND	ND	3.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.05	ND	ND	ND
		5/2/2007	0.124	ND	ND	ND	ND	35.1	ND	2.3	ND	ND	ND	10.2	1.66	ND	ND	2,050	ND	6.29	ND	ND	1.66
		6/6/2007	-	ND	ND	ND	ND	5.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.65	ND	4.48	ND	ND	ND
		10/16/2007	0.380	ND	ND	ND	ND	17.9	ND	ND	ND	ND	ND	22.1	ND	ND	ND	2,250	ND	11.5	ND	ND	ND
		10/21/2008	0.114	ND	ND	ND	ND	22.0	ND	2.92	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.8	ND	ND	ND
		4/8/2009	0.196	ND	ND	ND	ND	9.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-222	Intermediate	9/10/1997	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/30/2001	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/25/2001	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/1/2002	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/3/2002	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/22/2003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.40	ND	ND	ND	ND	ND
		5/19/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.00	ND	ND	ND	ND	ND
		10/5/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/25/2005	0.220	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/2005	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/18/2006	0.011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/2/2007	0.008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/15/2008	ND	ND	ND	ND	ND	16.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/21/2008	0.045	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.3	ND	2.11	ND	ND	ND
		4/8/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&A-223 [8]	Shallow	7/8/1998	ND	ND	ND	ND	ND	1,200	ND	ND	ND	ND	ND	ND	ND	ND	ND	45,000	ND	ND	ND	ND	ND
		9/19/2000	2.22	ND	ND	ND	ND	6,800	ND	ND	ND	ND	ND	ND	ND	ND	ND	350,000	ND	ND	ND	ND	ND
		5/30/2001	2.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/2001	2.86	ND	5.60	ND	ND	6,700	ND	ND	ND	ND	ND	1,800	ND	ND	ND	360,000	ND	ND	ND	ND	ND
		5/1/2002	3.08	ND	ND	ND	ND	11,800	ND	ND	ND	ND	ND	2,040	ND	ND	ND	575,000	ND	580	ND	ND	370
		10/3/2002	2.08	ND	ND	ND	ND	10,500	ND	ND	ND	ND	ND	ND	ND	ND	ND	395,000	ND	ND	ND	ND	ND
		4/23/2003	1.78	ND	ND	ND	ND	12,500	ND	340	ND	ND	ND	2,920	ND	ND	ND	535,000	ND	710	ND	ND	460
		5/20/2004	2.03	72.0	4.80	17.7	34.4	9,140	14.4	157	1.30	44.5	280	180	112	35.5	ND	68,000	4.20	132	ND	ND	117.50
		10/5/2004	1.62	ND	ND	ND	ND	8,100	18.0	224	ND	ND	174	1,880	313	32.0	ND	357,000	ND	300	ND	ND	313
		4/25/2005	15.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/24/2005	1.68	ND	5.00	23.9	49.3	8,890	19.5	297	8.10	ND	158	2,480	388	44.7	ND	407,000	39.8	411	ND	ND	435.90
		4/18/2006	0.915	ND	7.78	27.3	46.4	9,110	23.3	289	6.45	ND	149	1,930	312	62.5	2.32	340,000	22.8	335	1.43	ND	341.25
		10/17/2006	0.664	ND	ND	13.0	24.6	5,850	17.2	182	2.64	ND	88.3	1,030	134	ND	ND	247,000	8.47	184	ND	ND	145.11
		5/2/2007	1.19	ND	8.95	24.1	34.8	6,750	30.2	340	5.47	ND	87.4	3,210	264	56.6	8.49	409,000	16.9	445	ND	ND	287.99
		6/6/2007	-	ND	ND	27.5	42.2	9,420	ND	ND	3.81	ND	86.9	2,150	221	ND	6.78	331,000	8.6	309	ND	ND	233.41
		10/16/2007	0.662	ND	ND	24.3	33.9	10,300	26.5	291	ND	ND	88.6	3,540	377	66.2	ND	384,000	ND	362	ND	ND	377
		4/15/2008	0.840	ND	5.72	19.0	27.3	7,460	26.4	271	3.96	ND	43.9	1,280	188	82.5	1.71	272,000	8.32	335	ND	ND	200.28
		10/21/2008	0.007	ND	8.56	24.8	34.6	8,350	42.4	394	5.42	ND	72.2	1,980	296	88.1	8.52	294,000	23.30	478	ND	ND	324.72
		4/8/2009	0.137	ND	ND	ND	ND	10,100	ND	ND	ND	ND	ND	3,350	ND	ND	ND	412,000	ND	ND	ND	ND	ND

TABLE 4
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER DATA ANALYTICAL SUMMARY
SALT & GANTRY BUILDINGS

Well	Aquifer	Sample Date	Cyanide	Acetone	Chloro-form	1,1 Dichloro-ethane	1,2-Dichloro-ethane	cis 1,2 Dichloro-ethene	1,1 Dichloro-ethene	trans 1,2 Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene-chloride	PCE	Toluene	1,1,2-Trichloro-ethane	1,1,1-Trichloro-ethane	TCE	Xylenes	Vinyl Chloride	Bromo-methane	Chloro-methane	Total BTEX
		Est. GRO for Shallow Aquifer	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
			0.685	NSL	12.3	NSL	NSL	2,500	NSL	NSL	NSL	NSL	NSL	Shallow-39 Interm.-29	NSL	NSL	NSL	45,000	NSL	680	NSL	NSL	NSL
M&A-224[(0)]	Shallow	7/8/1998	2.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.30	ND	ND	ND	ND	ND
		5/30/2001	8.84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/2001	9.45	ND	ND	ND	ND	1.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.0	ND	ND	ND	ND	ND
		5/1/2002	9.72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	38.8	ND	ND	ND	ND	ND
		10/3/2002	6.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	35.0	ND	ND	ND	ND	ND
		4/23/2003	8.87	ND	ND	ND	ND	1.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	32.3	ND	ND	ND	ND	ND
		10/22/2003	1.88	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.1	ND	ND	ND	ND	ND
		5/18/2004	0.319	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.8	ND	ND	ND	ND	ND
		10/5/2004	0.202	ND	ND	ND	ND	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.3	ND	ND	ND	ND	ND
		4/25/2005	0.377	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/2005	0.404	ND	ND	ND	ND	10.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.70	ND	ND	ND	ND	ND
		4/18/2006	0.392	ND	ND	ND	ND	3.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.70	ND	ND	ND	ND	ND
		10/17/2006	0.069	ND	ND	ND	ND	6.53	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.46	ND	ND	ND	ND	ND
		5/2/2007	0.358	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.53	ND	ND	ND	ND	ND
		10/16/2007	0.486	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/15/2008	1.34	ND	ND	ND	ND	1.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.61	ND	4	ND	ND	ND
		10/21/2008	0.241	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.40	ND	ND	ND	ND	ND
		4/8/2009	0.348	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.70	ND	ND	ND	ND	ND
M&A-225	Shallow	7/8/1998	6.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.0	ND	ND	ND	770	ND	ND	ND	ND	ND
		9/19/2000	7.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/30/2001	2.83	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/2001	3.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/1/2002	2.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/3/2002	6.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	7.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/22/2003	6.10	ND	1.30	ND	ND	114	1.20	3.30	ND	ND	ND	20.4	ND	ND	ND	809	ND	3.90	ND	ND	ND
		5/18/2004	2.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/5/2004	3.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/25/2005	6.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/24/2005	3.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5/15/2006	6.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/18/2006	3.84	ND	ND	ND	ND	11.8	ND	ND	ND	ND	ND	5.60	ND	ND	ND	497	ND	ND	ND	ND	ND
		5/2/2007	2.58	ND	ND	ND	ND	6.4	ND	ND	ND	ND	ND	6.13	ND	ND	ND	210	ND	ND	ND	ND	ND
		10/16/2007	2.84	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	10.40	ND	ND	ND	687	ND	ND	ND	ND	ND
		4/15/2008	1.53	ND	ND	ND	ND	19.8	ND	1.13	ND	ND	ND	7.98	ND	ND	ND	1,500	ND	ND	ND	ND	ND
		10/21/2008	0.006	ND	ND	ND	ND	3.44	ND	ND	ND	ND	ND	3.45	ND	ND	ND	240	ND	ND	ND	ND	ND
		4/8/2009	1.85	ND	ND	ND	ND	2.31	ND	ND	ND	ND	ND	2.62	ND	ND	ND	103	ND	ND	ND	ND	ND
M&A-226	Shallow	7/9/1998	0.430	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		9/19/2000	1.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/30/2001	1.93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.60	ND	ND	ND	ND	ND
		10/25/2001	1.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/1/2002	1.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.30	ND	ND	ND	ND	ND
		10/3/2002	1.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/2003	2.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.60	ND	ND	ND	ND	ND
		10/22/2003	4.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		5/19/2004	2.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/5/2004	13.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/25/2005	3.52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/2005	3.88	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.00	ND	ND	ND	ND	ND
		5/15/2006	3.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2006	1.71	ND	ND	ND	ND	1.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.24	ND	ND	ND	ND	ND
		5/1/2007	0.745	ND	ND	ND	ND	3.89	ND	ND	ND	ND	ND	ND	ND	ND	ND	30.60	ND	ND	ND	ND	ND
		10/16/2007	0.488	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	579	ND	ND	ND	ND	ND
		4/15/2008	1.05	ND	ND	ND	ND	12.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.2	ND	1.51	ND	ND	ND
		10/21/2008	1.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.4	ND	ND	ND	ND	ND
		4/9/2009	0.319	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.7	ND	ND	ND	ND	ND
MW-301	Shallow	7/12/2006	0.234	ND	ND	17.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.0	1.40	ND	ND	ND	ND
		10/18/2006	0.182	ND	ND	19.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.0	3.19	ND	ND	ND	ND
		5/1/2007	0.228	ND	ND	9.98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.0	5.06	ND	ND	ND	ND
		10/16/2007	0.150	ND	ND	21.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23.7	ND	ND	ND	ND	ND
		4/15/2008	0.164	ND	ND	13.8	ND	1.82	ND	ND	ND	ND	ND	1.54	ND	ND	ND	14.3	338	ND	ND	ND	ND
		10/21/2008	0.026	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.4	4	ND	ND	ND	ND
		4/9/2009	0.167	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-302	Shallow	7/12/2006	28.9	11	ND	ND	ND	80.0	ND	71.0	ND	ND	ND	ND	ND	ND	ND	ND	2.40	ND	7.30	ND	ND
		10/18/2006	43.0	ND	ND	ND	ND	42.9	ND	44.8	ND	ND	ND	ND	ND	ND	ND	ND	17.4	ND	3.05	ND	ND
		5/1/2007	34.3	ND	ND	ND	ND	38.9	ND	35.9	ND	ND	ND	ND	ND	ND	ND	ND	36	ND	2.21	ND	ND
		10/16/2007	42.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/15/2008	8.46	ND	ND	ND	ND	60	ND	68.5	ND	ND	ND	ND	ND	ND	ND	ND	258	ND	ND	ND	ND
		10/28/2008	ND	ND	ND	ND	ND	43.8	ND	58.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.40	ND	ND
		4/15/2009	ND	ND	ND	ND	ND	65.7	ND	146	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.28	ND	ND
MW-303	Shallow	7/12/2006	2.60	ND	ND	2.50	ND	10.0	ND	1.20	ND	ND	ND	0.65	ND	ND	1.80	16.0	ND	ND	ND	ND	ND
		10/18/2006	0.754	ND	ND	ND	ND	3.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.72	ND	ND	ND	ND
		5/1/2007	0.609	ND	ND	2.47	ND	5.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.01	8.3	ND	ND	ND	ND
		10/16/2007	0.372	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/15/2008	0.736	ND	ND	ND	ND	7.05	ND	ND	ND	ND	ND	3.75	ND	ND	ND	647	ND	ND	ND	ND	ND
		10/28/2008	ND	ND	ND	ND	ND	15.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	65.7	ND	ND	ND	ND	ND
		4/9/2009	0.133	ND	ND	ND	ND	12.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	30.6	ND	ND	ND	ND	ND

TABLE 4
BODYCOTE THERMAL PROCESSING
HISTORICAL GROUNDWATER DATA ANALYTICAL SUMMARY
SALT & GANTRY BUILDINGS

Well	Aquifer	Sample Date	Cyanide	Acetone	Chloro-form	1,1 Dichloro-ethane	1,2-Dichloro-ethane	cis 1,2 Dichloro-ethene	1,1 Dichloro-ethene	trans 1,2 Dichloro-ethene	Ethyl-benzene	4-Methyl-2-pentanone	Methylene-chloride	PCE	Toluene	1,1,2-Trichloro-ethane	1,1,1-Trichloro-ethane	TCE	Xylenes	Vinyl Chloride	Bromo-methane	Chloro-methane	Total BTEX
		Est. GRO for Shallow Aquifer	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
			0.685	NSL	12.3	NSL	NSL	2,500	NSL	NSL	NSL	NSL	NSL	Shallow-39 Interm.-29	NSL	NSL	NSL	45,000	NSL	880	NSL	NSL	NSL
MW-304	Shallow	7/12/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		10/17/2006	0.650	ND	ND	ND	ND	28.1	ND	4.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.7	ND	ND	ND
		5/1/2007	0.650	ND	ND	ND	ND	18.5	ND	1.78	ND	ND	ND	ND	ND	ND	ND	11.7	ND	4.05	ND	ND	ND
		9/6/2007	-	ND	ND	ND	ND	4.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/16/2007	0.313	ND	ND	ND	ND	14.4	ND	1.65	ND	ND	ND	6.12	ND	ND	ND	474	ND	ND	ND	ND	ND
		4/15/2008	0.360	ND	ND	ND	ND	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/28/2008	0.583	ND	ND	ND	ND	1.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/9/2009	0.118	ND	ND	ND	ND	6.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.40	ND	ND	ND
Well-1	Intermediate	7/27/1993	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12/6/1994	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/17/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/28/2008	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.05	ND	ND	ND	ND	ND

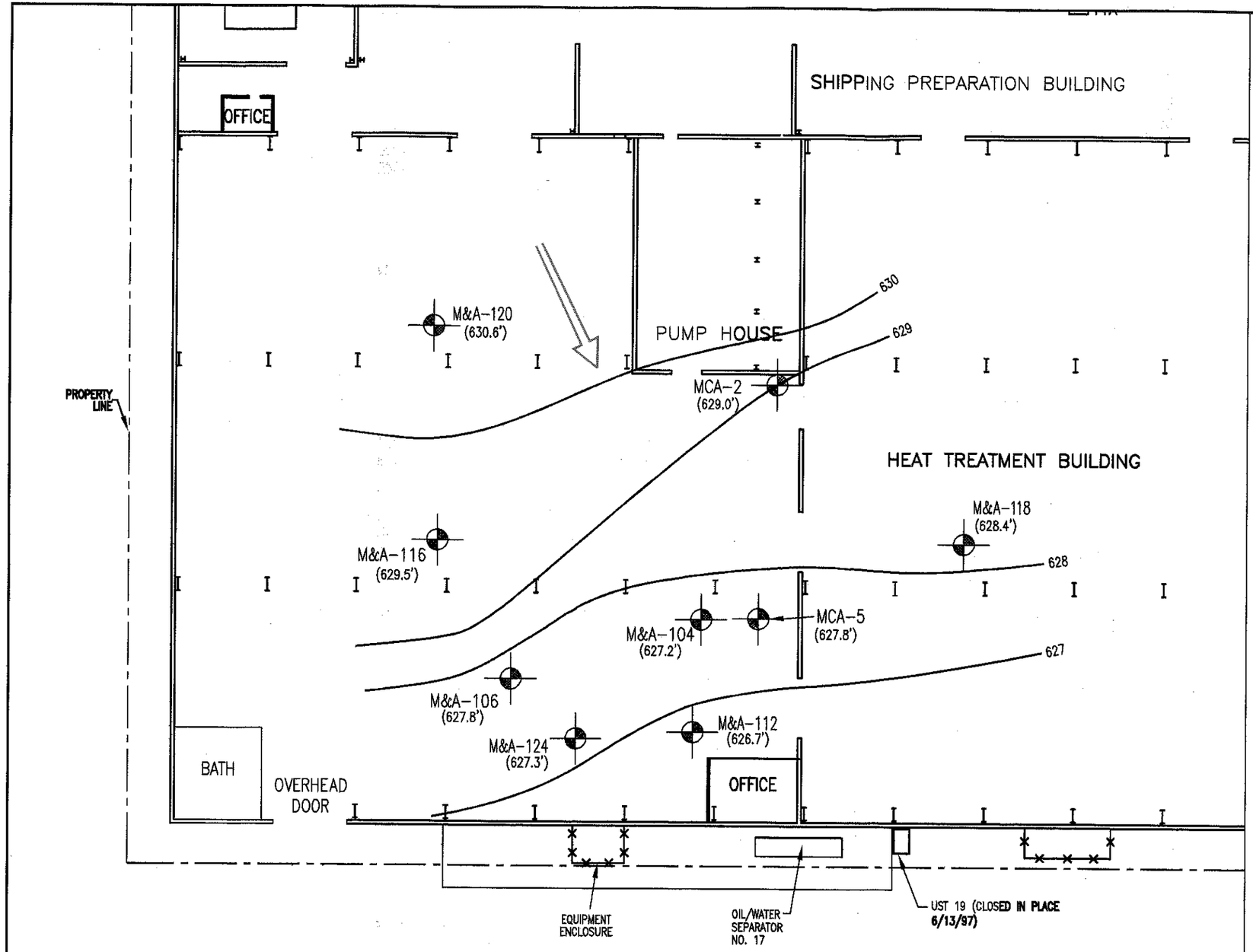
NOTES:

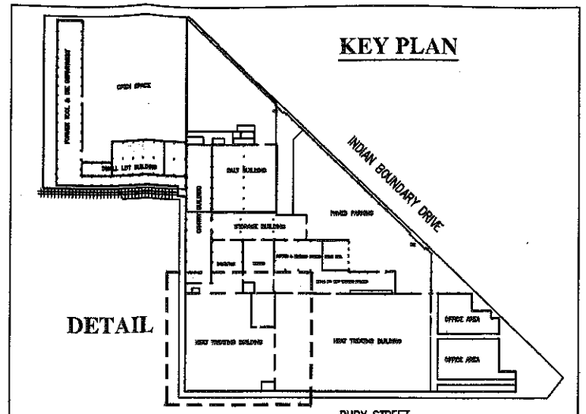
- Not submitted for analysis
ND Not Detected; concentration of chemical is below the laboratory method reporting limit
NA Not Analyzed during this sampling event.
mg/L milligrams per liter
ug/L Micrograms per liter
GRO Groundwater Remedial Objective specified by IEPA
GROs were not established for the intermediate portion of the aquifer
NSL GRO not specified by IEPA
Shading indicates a concentration above the applicable GRO

(1) Dichlorodifluoromethane was detected at a concentration of 3.76 ug/L during the October 2006 sampling event, and at 52.3 ug/L during the October 2008 sampling event.
(2) Benzene, n-Butylbenzene, and Naphthalene were detected at a concentration of1.02 ug/L,1.78 ug/L, and 9.08 ug/L respectively during the October 2008 sampling event.
(3) Monitoring well not accessible, paved over during past year.
(4) Carbon disulfide was detected at a concentration of 1.02 ug/L on June 6, 2007.
(5) Monitoring well was destroyed by various site works at some time in 2006.
(6) Carbon disulfide was detected at a concentration of 3.1 ug/L during the October 2005 sampling event, 2.22 ug/L during the October 2006 sampling event, and 1.73 during the June 2007 sampling event.
(7) Chloroethane was detected at a concentration of 1.29 ug/L during the October 2006 sampling event.
(8) Benzene was detected at a concentration of 1.15 ug/L during the on April 2009 sampling event.

Table 6
Salt and Gantry Buildings
Summary of Wells and Proposed Actions

Monitoring Wells: (29) Wells	Aquifer	Recovery Wells: (5) Wells	Currently Included in Semi-Annual Sampling Program: (17) Wells		Currently Included in Extended Sampling Program: (28) Wells		Proposed to Exclude From Semi-Annual Sampling Program: (4) Wells	Proposed to Continue in the Semi-Annual Sampling Program: (13) Wells
			X = Yes	04/09 Sample Exceeded GRO's	X = Yes	10/08 sample Exceeded GRO's		
M&A-207	shallow	X	X	X	X	X		cyanide
M&A-211	shallow		X	X	X	X		VOCs
M&A-213	shallow		X		X			VOCs
M&A-214	shallow		X		X		X	
M&A-216	shallow		X		X			VOCs/cyanide
M&A-217	shallow		X		X	X		cyanide
M&A-218	shallow	X	X		X	X		VOCs/cyanide
M&A-219	shallow		X		X			VOCs/cyanide
M&A-220	shallow		X		X		X	
M&A-223	shallow	X	X	X	X	X		VOCs/cyanide
M&A-224	shallow		X		X			VOCs/cyanide
M&A-225	shallow		X	X	X			VOCs/cyanide
M&A-226	shallow		X		X	X		cyanide
M&A-301	shallow		X		X		X	
M&A-302	shallow		X		X			cyanide
M&A-303	shallow	X	X		X			cyanide
M&A-304	shallow	X	X		X		X	
Well-1	deep				X			
M&A-201	shallow				X			
M&A-202	intermediate				X			
M&A-203	shallow				X			
M&A-204	intermediate				X			
M&A-205	shallow				X			
M&A-206	intermediate				X			
M&A-209	shallow				X			
M&A-215	intermediate				X			
M&A-221	shallow				X			
M&A-222	intermediate				X			
M&A-210	shallow							





NOTES:

1. MONITORING WELL LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. MONITORING WELL LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

LEGEND:

- MONITORING WELL LOCATION
- (630.5') GROUNDWATER ELEVATION, DEFINED AS NATIONAL GEODETIC VERTICAL DATUM (NGVD)
- APPROXIMATE PROPERTY LINE
- SUPPORTING COLUMN
- 1.0 FT. SHALLOW GROUNDWATER CONTOURS (APRIL 2009)
- CHAIN LINK FENCE
- GROUNDWATER FLOW DIRECTION

SCALE:

0' 30' 60' 90'

BODYCOTE THERMAL PROCESSING, INC.

MELROSE PARK, ILLINOIS

NO.	DATE	DESCRIPTION	DRN	CHK	APP
		REVISION			

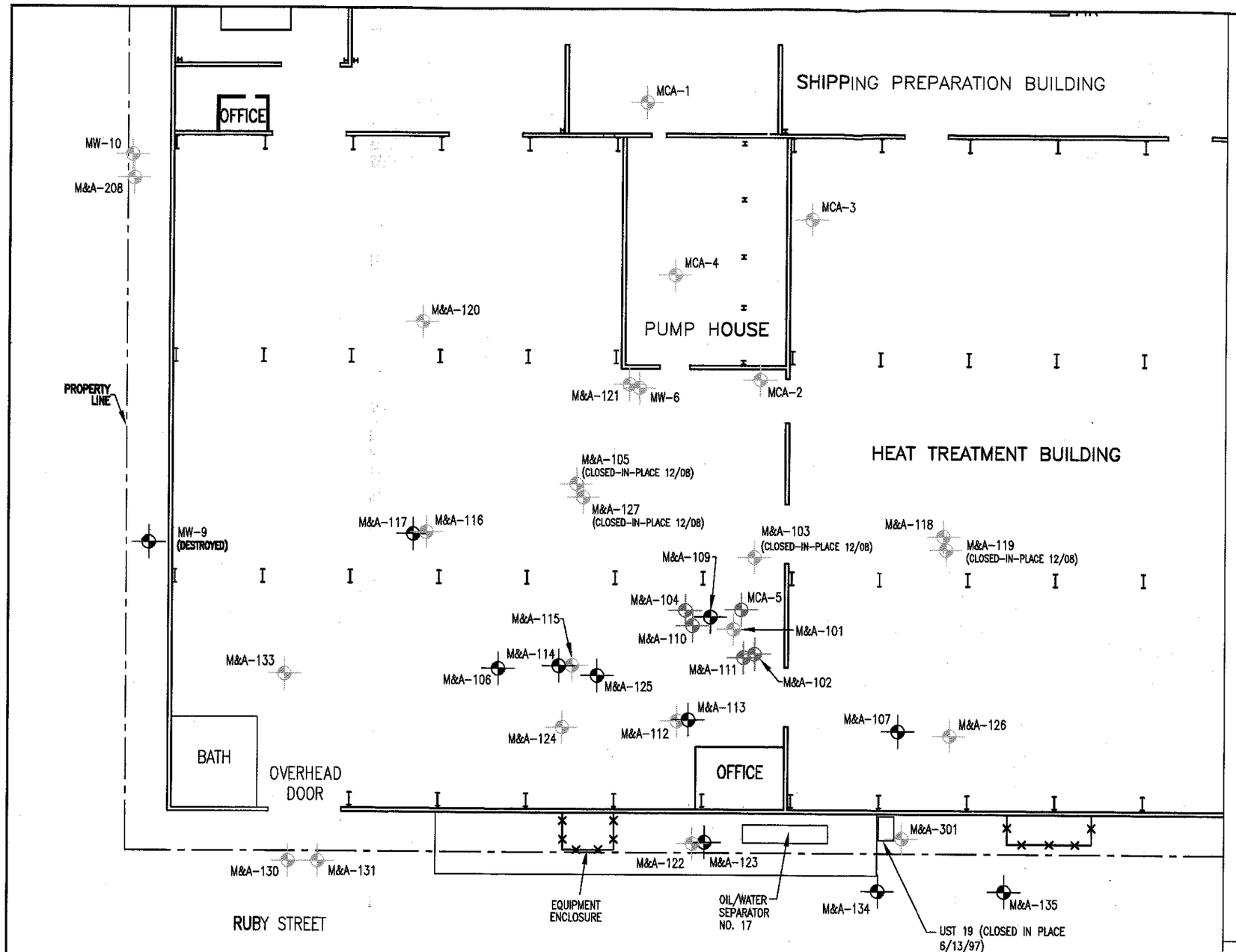
Mabbett & Associates
Environmental Consultants & Engineers

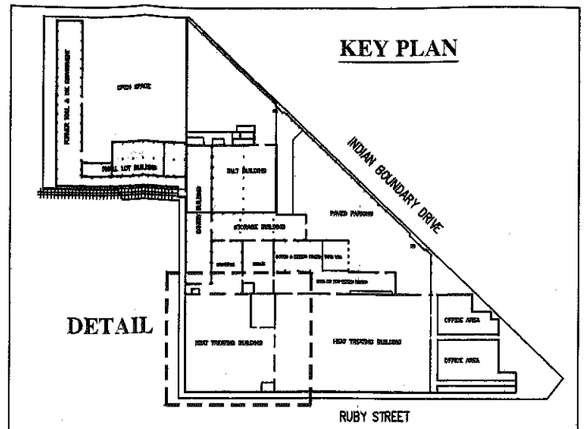
HEAT TREATMENT BUILDING SHALLOW GROUNDWATER ELEVATION CONTOURS (APRIL 2009)

DWG. NO. L-1

DRAWN DJA | APPROVED | SCALE 1"=30'-0" | PROJ. NO. 1998002.268

S:\CADD\WORK\Bodycote\RAP Modification\1998002-268-L1a HTB Sallow GW Contours APRIL 2009.dwg - L-1 Well Loc Plan - Nov. 18, 2009 10:42am - dja





NOTES:

1. MONITORING WELL LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. MONITORING WELL LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

LEGEND:

- MONITORING WELL LOCATION
- VOC GRO NON-EXCEEDANCE
- VOC GRO EXCEEDANCE
- APPROXIMATE PROPERTY LINE
- SUPPORTING COLUMN
- CHAIN LINK FENCE

SCALE:

0' 30' 60' 90'

BODYCOTE THERMAL PROCESSING, INC.

MELROSE PARK, ILLINOIS

NO.	DATE	DESCRIPTION	DRN	CHK	APP
		REVISION			

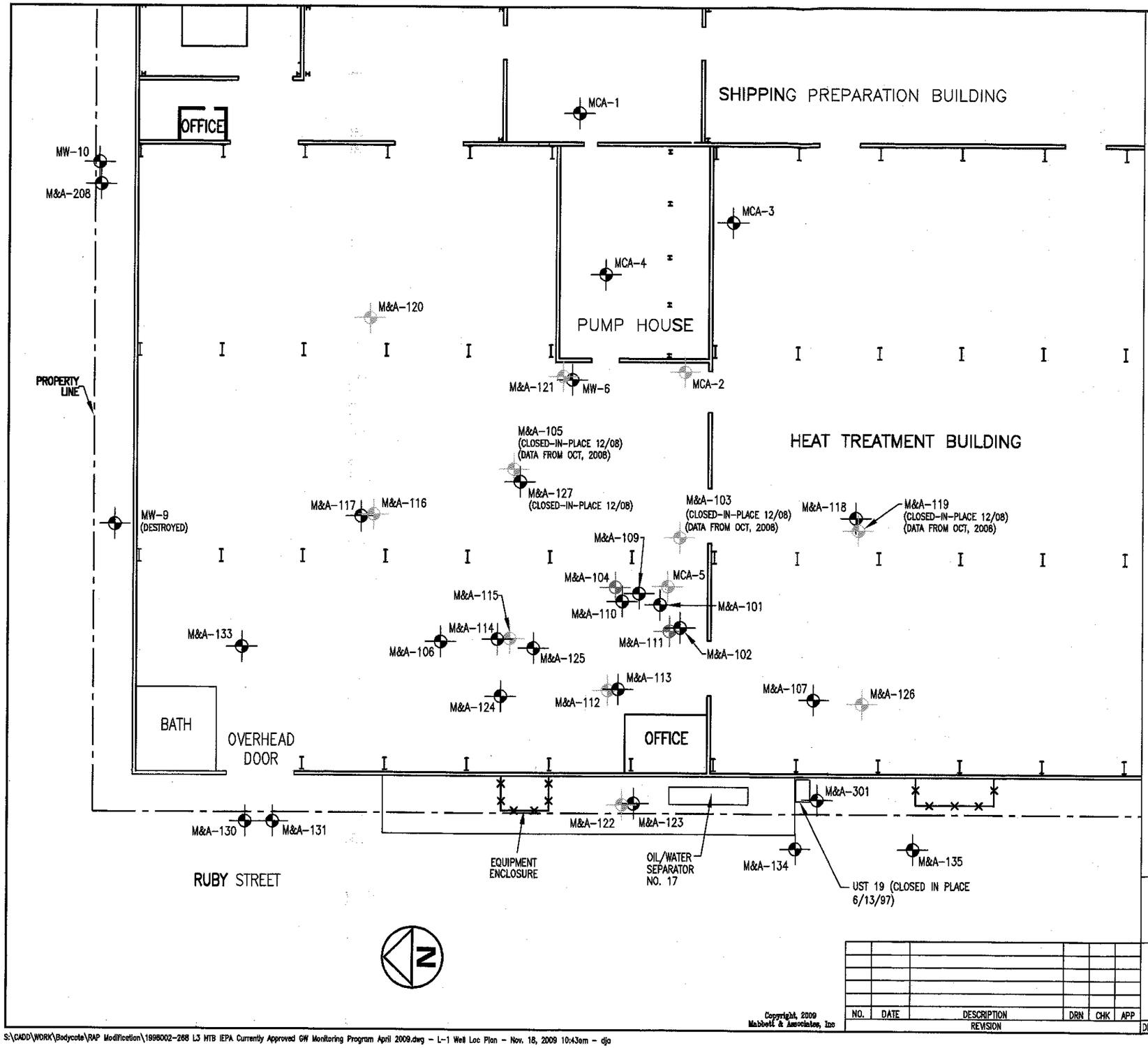
Mabbett & Associates

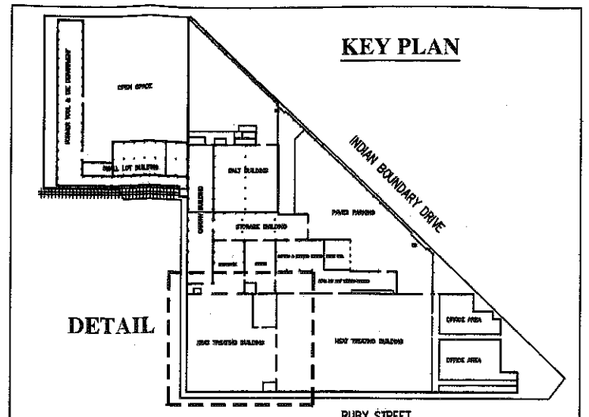
HEAT TREATMENT BUILDING EXTENDED GROUNDWATER MONITORING PROGRAM (OCTOBER 2008)

DWG. NO. L-2

DRAWN DJA | APPROVED | SCALE 1"=30'-0" | PROJ. NO. 1998002.268

S:\CADD\WORK\Bodycote\RAP Modification-267-268\1998002-268 L2 HTB Extended GW Sampling Event Oct2008.dwg - L-1 Well Loc Plan - Dec. 03, 2009 4:23pm - djo





NOTES:

1. MONITORING WELL LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. MONITORING WELL LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

LEGEND:

- MONITORING WELL LOCATION
- VOC GRO NON-EXCEEDANCE
- VOC GRO EXCEEDANCE
- APPROXIMATE PROPERTY LINE
- SUPPORTING COLUMN
- CHAIN LINK FENCE

SCALE:

0' 30' 60' 90'

BODYCOTE THERMAL PROCESSING, INC.

MELROSE PARK, ILLINOIS

NO.	DATE	DESCRIPTION REVISION	DRN	CHK	APP

Mabbett & Associates
Environmental Consultants & Engineers

HEAT TREATMENT BUILDING
IEPA CURRENTLY
APPROVED GROUNDWATER
MONITORING PROGRAM
(APRIL 2009)

DWG. NO. L-3

DRAWN DJA | APPROVED | SCALE 1"=30'-0" | PROJ. NO. 1998002.268

S:\CADD\WORK\Bodycote\RAP Modification\1998002-268 L3 HTB IEPA Currently Approved GW Monitoring Program April 2009.dwg - L-1 Well Loc Plan - Nov. 18, 2009 10:43am - dja

FORMER TOOL & DIE DEPARTMENT

OFFICE

OFFICE AREA

SMALL LOT BUILDING

TOOL & DIE ACCESS CORRIDOR

M&A-213
(627.44)

M&A-201

WELL-1

GATE

INDIAN BOUNDARY DRIVE

DETAIL

KEY PLAN

M&A-221
(630.32)

M&A-211
(627.46)

628

629

630

631

632

CONCRETE PAD

CARBON DIOXIDE TANK & CONCRETE PAD

GANTRY BUILDING

MW-304
(630.45)

M&A-226
(631.48)

M&A-224
(627.59)

EAST GANTRY PIT

SALT BUILDING

GANTRY SILO

M&A-225
(628.49)

MW-301
(632.17)

PAVED PARKING

OVERHEAD DOOR

MW-303
(632.05)

M&A-214
(627.51)

CENTRAL GANTRY PIT

STORAGE BUILDING

MAINTENANCE

STORAGE

SHIPPING & RECEIVING BUILDING

TRUCK WELL

WEST GANTRY PIT

LEGEND:

- MONITORING WELL LOCATION
- PROPERTY LINE
- CHAIN LINK FENCE
- SUPPORTING COLUMN
- ENGINEERED BARRIER: BITUMINOUS CONCRETE
- (631) SHALLOW GROUNDWATER CONTOUR
- (629.34) GROUNDWATER ELEVATION, DEFINED AS NATIONAL GEODETIC VERTICAL DATUM (NGVD)
- GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL AND BORING LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. MONITORING WELL AND BORING LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

SCALE:

0' 40' 80' 120'

NO.	DATE	DESCRIPTION REVISION	DRN	CHK	APP

BODYCOTE THERMAL PROCESSING, INC.

MELROSE PARK, ILLINOIS

Mabbett & Associates

SALT & GANTRY BUILDING SHALLOW GROUNDWATER CONTOURS (APRIL 2009)

DWG. NO. L-4

DRAWN DJA | APPROVED | SCALE 1"=40'-0" | PROJ. NO. 1998002.268

S:\CADD\WORK\Bodycote\RAP Modification\1998002-268 L4a SGB Shallow GW Contours APRIL 2009.dwg - L-1 Well Loc Plan - Nov. 18, 2009 10:44am - dja

FORMER TOOL & DIE DEPARTMENT

OFFICE

OFFICE AREA

FROM TOOL & DIE BUILDING

OIL/WATER SEPARATOR

OIL/WATER SEPARATOR

FD/CO

SMALL LOT BUILDING

TOOL & DIE ACCESS CORRIDOR

M&A-213

M&A-201

WELL-1

M&A-220
(DESTROYED BY SITE WORKS)

GATE

M&A-211

M&A-219

M&A-222

M&A-221

CONCRETE PAD

CARBON DIOXIDE TANK & CONCRETE PAD

CONCRETE PAD

M&A-203

M&A-202

M&A-223

MW-304

M&A-226

M&A-224

EAST GANTRY PIT

M&A-216

M&A-207

M&A-217

SALT BUILDING

M&A-206

M&A-218

MW-302

M&A-225

MW-301

GANTRY SILO

CLEAN-OUT

M&A-209

OVERHEAD DOOR

M&A-214

MW-303

CENTRAL GANTRY PIT

M&A-210

MANHOLE #2

M&A-204

M&A-205

M&A-215

SEWER PIPE

STORAGE BUILDING

MANHOLE #3

GANTRY BUILDING

WEST GANTRY PIT

MAINTENANCE

STORAGE

SHIPPING & RECEIVING BUILDING

TRUCK WELL

M&A-212
(DESTROYED BY SITE WORKS)

INDIAN BOUNDARY DRIVE

PAVED PARKING

DETAIL

KEY PLAN

LEGEND:

- MONITORING WELL LOCATION
- TOTAL CYANIDE AND VOC GRO NON-EXCEEDANCE
- VOC GRO EXCEEDANCE
- TOTAL CYANIDE GRO EXCEEDANCE
- APPROXIMATE PROPERTY LINE
- SUPPORTING COLUMN
- CHAIN LINK FENCE
- EXTERIOR ENGINEERED CONCRETE BARRIER
- SANITARY SEWER LINES
- SANITARY SEWER LINE FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. MONITORING WELL LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

SCALE:

0' 40' 80' 120'

NO.	DATE	DESCRIPTION REVISION	DRN	CHK	APP

BODYCOTE THERMAL PROCESSING, INC.

MELROSE PARK, ILLINOIS

Mabbett & Associates
Environmental Consultants & Engineers

SALT & GANTRY BUILDING EXTENDED GROUNDWATER MONITORING PROGRAM (OCTOBER 2008)

DWG. NO. L-5

DRAWN DJA | APPROVED | SCALE 1"=40'-0" | PROJ. NO. 1998002.268

S:\CADD\WORK\Bodycote\RAP Modification\1998002-268 L5 SGB Extented GW Sampling Event Oct2008.dwg - L-1 Well Loc Plan - Nov. 18, 2009 10:44am - dja

FORMER TOOL & DIE DEPARTMENT

OFFICE

OFFICE AREA

M&A-201

WELL-1

N

DETAIL

KEY PLAN

GATE

INDIAN BOUNDARY DRIVE

M&A-220
(DESTROYED BY SITE WORKS)

FROM TOOL & DIE BUILDING

OIL/WATER SEPARATOR

M&A-211

M&A-219

M&A-222

M&A-221

CONCRETE PAD

M&A-203

M&A-202

CARBON DIOXIDE TANK & CONCRETE PAD

CONCRETE PAD

M&A-212
(DESTROYED BY SITE WORKS)

M&A-223

MW-304

M&A-226

FD/CO

FD/CO

FD/CO

FD/CO

FD/CO

SMALL LOT BUILDING

OIL/WATER SEPARATOR

M&A-224

EAST GANTRY PIT

M&A-216

M&A-207

M&A-217

SALT BUILDING

M&A-206

M&A-218

MW-302

TOOL & DIE ACCESS CORRIDOR

M&A-213

M&A-225

MW-301

GANTRY SILO

GANTRY BUILDING

CLEAN-OUT

PAVED PARKING

M&A-209

OVERHEAD DOOR

M&A-214

MW-303

CENTRAL GANTRY PIT

M&A-210

MANHOLE #2

M&A-204

M&A-205

M&A-215

SEWER PIPE

STORAGE BUILDING

MANHOLE #3

MAINTENANCE

STORAGE

SHIPPING & RECEIVING BUILDING

TRUCK WELL

WEST GANTRY PIT

LEGEND:

- MONITORING WELL LOCATION
- TOTAL CYANIDE AND VOC GRO NON-EXCEEDANCE
- VOC GRO EXCEEDANCE
- TOTAL CYANIDE GRO EXCEEDANCE
- APPROXIMATE PROPERTY LINE
- SUPPORTING COLUMN
- CHAIN LINK FENCE
- EXTERIOR ENGINEERED CONCRETE BARRIER
- SANITARY SEWER LINES

NOTES:

1. MONITORING WELL LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. MONITORING WELL LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

SCALE:

0' 40' 80' 120'

NO.	DATE	DESCRIPTION	DRN	CHK	APP
		REVISION			

BODYCOTE THERMAL PROCESSING, INC.

MELROSE PARK, ILLINOIS

Mabbett & Associates

SALT & GANTRY BUILDING IEPA CURRENTLY APPROVED GROUNDWATER MONITORING PROGRAM (APRIL 2009)

DWG. NO. L-6

DRAWN DJA | APPROVED | SCALE 1"=40'-0" | PROJ. NO. 1998002.268

S:\CADD\WORK\Bodycote\RAP Modification\1998002-268 L6 SGB IEPA Currently Approved GW Monitoring Program April 2009.dwg - L-1 Well Loc Plan - Nov. 16, 2009 10:45am - djo

December 28 ™
IEPA letter to Lindberg. Addresses RAP for HTB.

P Stine

ENVIRONMENTAL PROTECTION AGENCY

ND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/524-3300

December 28, 2000

CERTIFIED MAIL
7099 3400 0002 1429 4332

Mr. Stephen S. Penley
Lindberg Heat Treating Company.
1975 North Ruby Street
Melrose Park, Illinois 60160

Re: 0311860011 - Cook County
Lindberg Heat Treating
ILD005071808
Log No. C-544-M-20
Date Received: August 17, 2000
SRP/Technical

Dear Mr. Penley:

This letter is in response to the August 16, 2000 Remedial Action Plan for the Heat Treating Building at the above-referenced facility that was prepared by Mr. Paul Steinburg, P.E., LSP of Mabbett & Associates, Inc. (M&A) on behalf of Lindberg Heat Treating Company Inc. (LHT). Remedial activities for contamination in the Heat Treating Building (HTB) and Gantry Building Salt Building (GB/SB) at the subject facility are being carried out under Illinois EPA's Site Remediation Program. A site layout map showing the location of these buildings within the subject facility is attached. The Illinois EPA's May 15, 2000 (Log No. 544-M-19) letter required that a Remedial Action Plan (RAP) be submitted for the HTB and GB/SB as the next step to address soil and groundwater contamination present at these units. The RAP for the GB/SB was received by Illinois EPA on November 8, 2000 and will be responded to at a later date.

On May 15, 2000, Illinois EPA approved a Remedial Objectives Report for both the HTB and GB/SB. The May 15, 2000 letter included conditions that specified or required the following for the HTB:

- Establishment of Tier 2 GROs for shallow and intermediate groundwater based upon Illinois EPA's independent evaluation.
- Approval of Tier 2 GROs based upon approval of certain ordinances to serve as an environmental institutional control for groundwater pathway exclusion.
- Removal of all DNAPL and LNAPL product to the maximum extent practicable prior to the approval of Tier 2 GROs.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 – (217) 782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 – (312) 814-6026

DOUGLAS P. SCOTT, DIRECTOR

TELECOPIER COVER PAGE

PLEASE PRINT IN BLACK INK ONLY!

DATE: 7/1/09 TIME: 11:40

PLEASE DELIVER THESE 7 PAGES
(INCLUDING THIS COVER PAGE) TO:

NAME: Don Heller

FIRM OR LOCATION: USEPA

CITY: Chicago

FIRM OR LOCATION PHONE NUMBER: 312-353-1248

FIRM OR LOCATION FAX NUMBER: 312-385-5340

FROM: Paula Stine

SENDER'S PHONE NUMBER: 217-524-3861

IF YOU DID NOT RECEIVE ALL OF THE PAGES OR THE PAGES ARE ILLEGIBLE, PLEASE INFORM US IMMEDIATELY AT THE PHONE NUMBER LISTED BELOW.

OUR TELECOPIER NUMBER IS (217) 524-3291
OUR PHONE NUMBER IS (217) 524-3300

IEPA OFFICE USE ONLY
TELECOPY DISPOSITION (CHECK ONE)

___ RETURN TO ORIGINATOR AFTER SENDING
_X_ DISCARD
___ CC: _____

- Approval of soil ROs provided: (1) an engineered barrier and associated institutional control are established over soil contamination in the HTB extended to the 0 mg/kg contour (shown in Attachment 6 - HTB Soil Concentration Contour Map) to the May 15, 2000s letter; and (2) an institutional control is established to restrict groundwater usage on the LHT property.

- Submittal of an RAP, which outlined the proposed remedial action to be taken to achieve TACO GROs.

The subject RAP for the HTB was submitted to address two areas of soil and groundwater contamination in the HTB in the vicinity of: (1) wells M&A 104, 110, 111 and 113 where dense non-aqueous phase liquids (DNAPL), primarily trichloroethylene are present; and (2) wells MCA-2, M&A 310 and M&A 114 where light non-aqueous phase liquid (LNAPL), primarily petroleum and non-chlorinated VOCs are present. A drawing showing the location of these areas within the HTB is attached.

The RAP for the HTB at the Lindberg Heat Treat facility is hereby approved subject to the following conditions and modifications:

1. The facility has not met the requirements of 35 Ill. Adm. Code 742.805 at the Heat Treating Building relative to the development of Tier 2 groundwater remediation objectives. Specifically, 35 Ill. Adm. Code 742.805(a)(2) requires that the facility take corrective action to the maximum extent practicable to remove any free product. In addition, Attachment 1, Condition 4.a of the Illinois EPA's May 15, 2000 letter (Log No. C-544-M-19) states:

   "The Illinois EPA requires the following be met regarding the groundwater contamination at the Heat Treating Building:

   Prior to the use of Tier 2 GROs (Groundwater Remediation Objectives) in Condition 2 above, source removal of dense nonaqueous phase liquid from groundwater at M&A-113 and light nonaqueous phase liquid at M&A-114 shall continue until all product is removed to the extent practicable;"

   Therefore, implementation of the institutional control and the approved Tier 2 GROs at the Heat Treating Building cannot be approved until such time that all free product has been removed to the maximum extent practicable as required in 35 Ill. Adm. Code 742.805(a)(2).

2. In accordance with the requirements of Attachment 1: Condition 4.b and 4.c of the Illinois EPA's May 15, 2000 letter, the facility shall continue a semi-annual sampling, analysis and reporting of groundwater conditions at the Heat Treating Building for wells MCA-5,

M&A-103, M&A-104, M&A-105, M&A-113, M&A-114, M&A-115, M&A-119, M&A-121, M&A-122 and M&A-126 until final remediation of the unit has been achieved. In addition, the following shallow wells should be included in this monitoring and reporting program due to the presence of vinyl chloride in excess of 35 Ill. Adm. Code 742 Tier 1 levels: M&A-112, M&A-116, M&A-120, MCA-2 and M&A-107. Any sampling results that exceed the conditionally approved Tier 2 GROs for the Heat Treating Building shall be remediated.

3. The facility states in the Remedial Action Plan, dated August 16, 2000, that groundwater samples will be analyzed for halogenated VOCs by EPA Method 8010. However, Method 8010 has been removed from USEPA's Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846) Third Edition, Final Update III, revised December 1996. Method 8010 has been replaced by Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors. Method 8021B must be utilized for analyzing halogenated VOCs.

4. Page 7 of the RAP for the HTB refers to Drawing L-4 as being the area subject to deed restriction and requiring maintenance of an engineered barrier. The drawing does not indicate that an engineered barrier will be maintained to the 0 contour line east of the HTB (towards Ruby Street) as required by the Illinois EPA's May 15, 2000 approval letter. LHT must resubmit a map indicating that an engineered barrier will be maintained up to the 0 contour line as an addendum to the RAP for the HTB.

5. In order to help define the effectiveness of the DNAPL and LNAPL recovery systems, the Illinois EPA requests that the estimated original volume of source in the groundwater be compared to the estimated amount of DNAPL and LNAPL removed as an addendum to the RAP for the HTB.

   To summarize recovery efforts to date, LHT has stated that recovery of DNAPL at M&A 113 has yielded approximately 188 gallons of DNAPL and 990 gallons of groundwater. Recovery of LNAPL from M&A-114 is approximately 15 gallons. In addition, field reports have shown little to no product on the belt skimmer in this well for the past six months. As such, LHT proposes to remove the belt skimmer and place an oil absorbent sock in well M&A-114 to collect potential residual oil and if after three month, product does not appear, removal of LNAPL will be considered to the maximum extent possible.

6. All activities implemented to address contamination identified in this letter must be carried out in accordance with 35 Ill. Code 740.

7. To ensure the requirements of 35 Ill. Adm. Code 740.410 are met, all future submittals to Illinois EPA must contain a completed DRM-2 form.

8. On November 29, 2000, Illinois EPA determined that Melrose Park, Ordinance No. 321 is an acceptable institutional control restricting groundwater usage in support of Tier 2 GROs. However that letter also pointed out that DNAPLS and LNAPLS present in the vicinity of the HTB and the GB/SB must be removed to the maximum extent practicable to meet the proposed Tier 2 GROs.

Within 35 days of the date of mailing of the Illinois EPA's final decision, the applicant may petition for a hearing before the Illinois Pollution Control Board to contest the decision of the Illinois EPA, however, the 35 day period for petitioning for a hearing may be extended for a period of time not to exceed ninety days by written notice provided to the Board form the applicant and the Illinois EPA within the 35-day initial appeal period.

Work required by this letter, your submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Practice Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Should you have any questions regarding this letter, please contact Karen Nachtwey at (217) 524-3273. For questions regarding groundwater issues please contact Paula Stine at (217) 524-3861.

Very Truly yours,

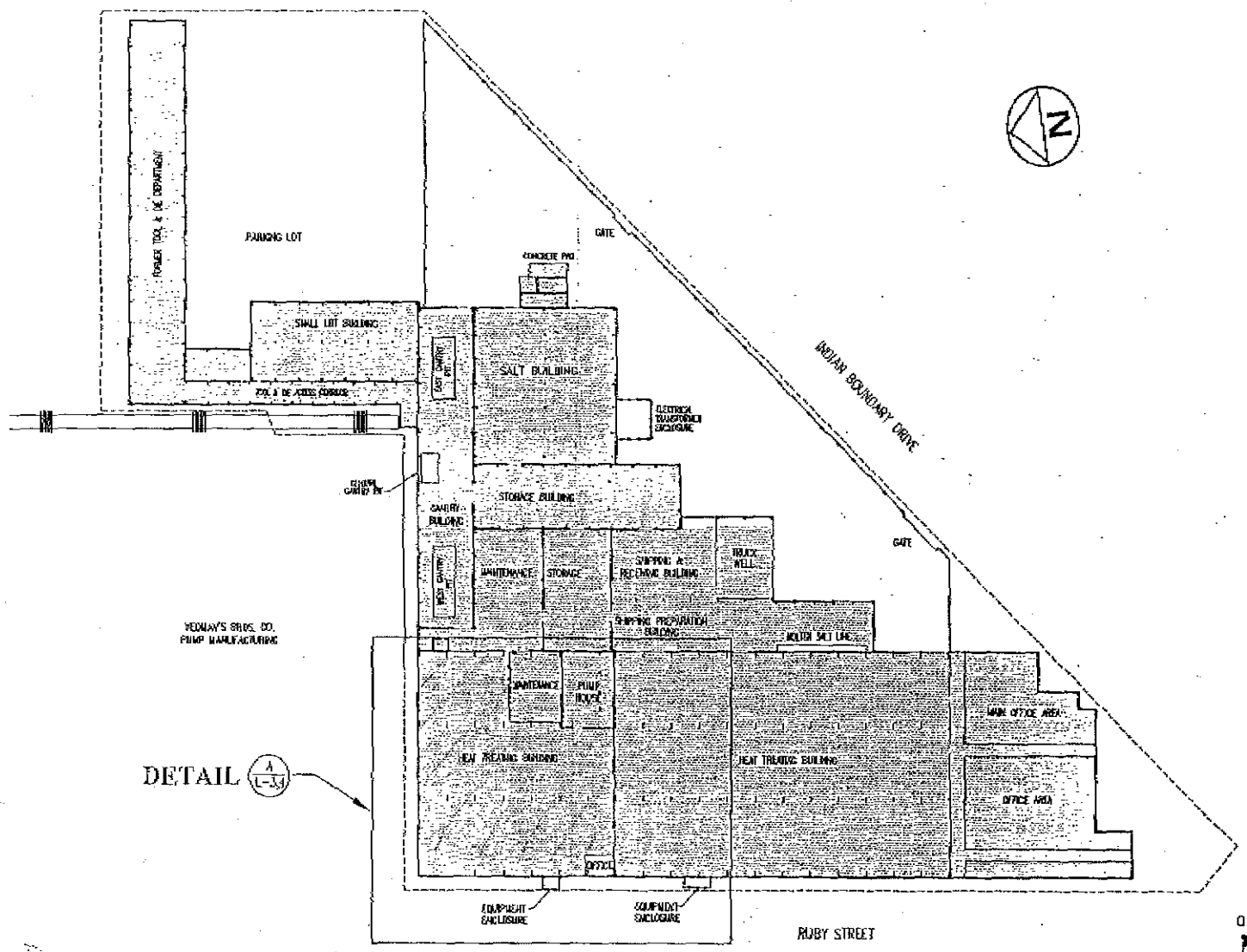
Joyce L. Munie, P.E.
Manager, Permit Section
Bureau of Land

JLM:KEN\mls006111s.doc
JLM

Attachments: Site Layout Map, Lindberg Heat Treat
Layout of Heat Treat Building, Lindberg Heat Treat

cc: Mahhett & Associates, Inc. - Paul D. Steinberg, P.E., LSP

bcc: Bureau File
Des Plaines Region
Terri Blake Myers
Jim Moore
Paula Stine
Karen Nachtwey



NOTES:

1. THE INFORMATION ON THIS PLAN IS BASED ON A PLAN ENTITLED 'LINDBERG CORPORATION, 1035 NORTH RUBY STREET, MELROSE PARK, ILLINOIS BY MARSH & MCLENNAN, INC., PROPERTY LOSS PREVENTION DEPT. DATED MARCH 3, 1989 AND FIELD OBSERVATIONS BY MBA PERSONNEL. ALL LOCATIONS AND PROPERTY LINES ARE APPROXIMATE.

LEGEND:

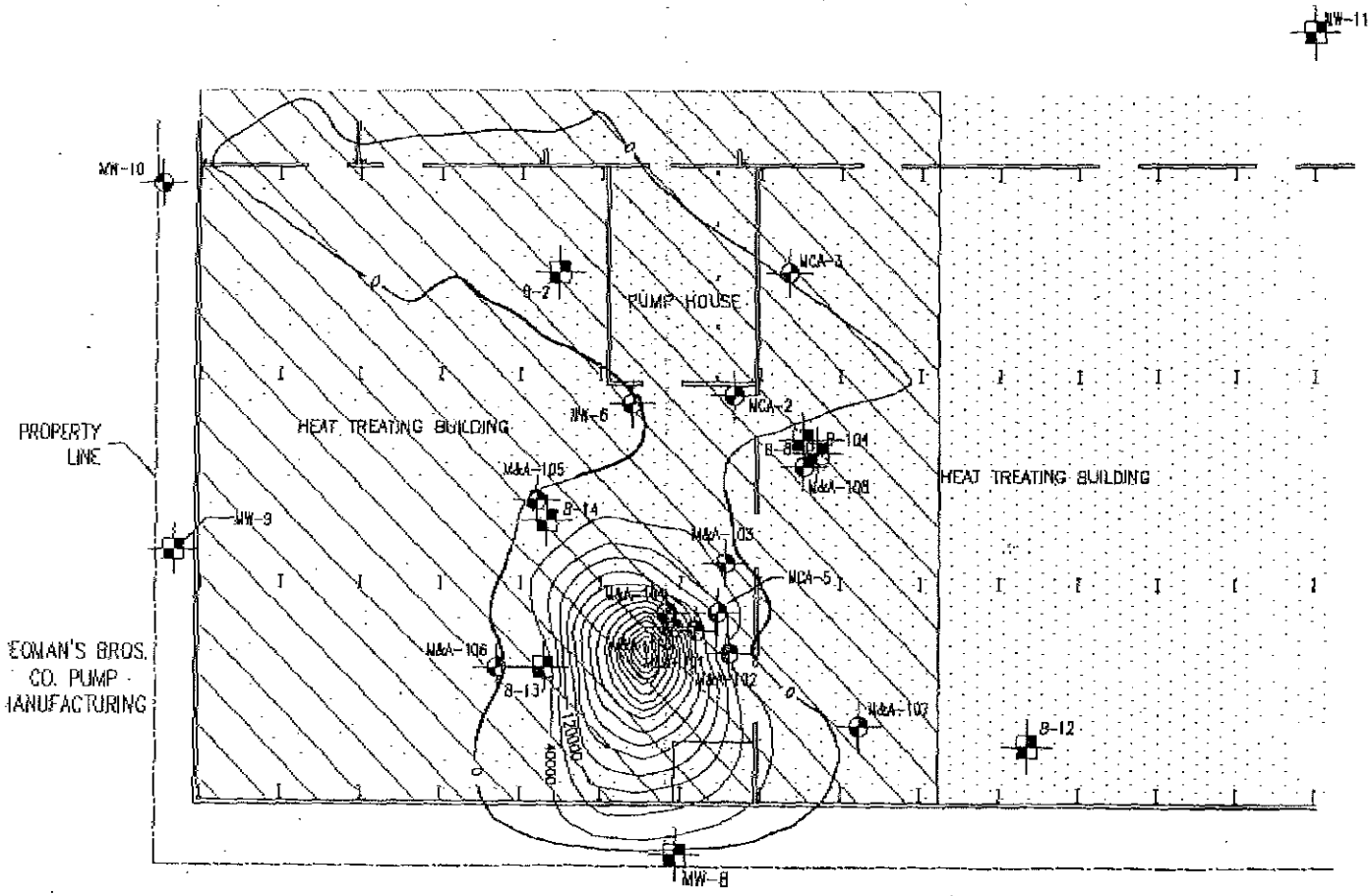
- PROPERTY LINE
- SUPPORTING COLUMN
- SUPPORTING COLUMN
- CHAIN LINK FENCE
- MA SIDING
- AREA OF FACILITY BUILDING FINISHED WITH POURED CONCRETE-SLAB FLOOR

SCALE:

0' 100' 200' 3C

Site Layout Map
Lindberg Heat Treating

LINDBERG HEAT TREATING CO. MELROSE PARK, IL	SITE PLAN	DRAWING 1
Mabbett & Associates, Inc.	SCALE: 1"=100'-0" DR BY: DJA	
	DATE: 8-1-89	SHEET



RUBY STREET

NOTES:

1. MONITORING WELL LOCATIONS ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. ALL CONCENTRATION CONTOURS ARE APPROXIMATE BASED ON LIMITED DATA POINTS.
3. DIAGRAM TAKEN FROM A PREVIOUSLY GENERATED M&A REPORT.

LEGEND

- MONITORING WELL LOCATION
- BORING LOCATION
- PROPERTY LINE
- 40,000 µg/kg — CONTOUR INTERVAL
- I — SUPPORT COLUMN
- AREA OF SOIL CONTAMINATION BI HEAT TREATING BUILDING THAT IS TO DEED RESTRICTION IMPLEMEN MAINTAIN THE EXISTING ENGINEER BARRIER (CONCRETE-SLAB FLOOR
- AREA OF FACILITY BUILDING FINIS POURED CONCRETE-SLAB FLOOR

SCALE:

0' 40' 80' 120'

N

Layout of Heat Treating Building
Lindberg Heat Treating

LINDBERG HEAT TREATING CO. MELROSE PARK, IL	SITE PLAN DETAIL "A" AREA SUBJECT TO INSTITUTIONAL CONTROLS	DRAWING
Mabbett & Associates, Inc.	SCALE: 1"=40'-0" DR BY: DJA	
	DATE: 8/16/00 AP BY:	PROJECT

COPY
06-21-09

REMEDIAL ACTION PLAN
HEAT TREATING BUILDING

LINDBERG HEAT TREATING COMPANY
1975 NORTH RUBY STREET
MELROSE PARK, IL

8/16/00

PROJECT NO. 98002.60

August 16, 2000

COPY
06-21-09

Mabbett & Associates, Inc.
Environmental Consultants & Engineers

5 Alfred Circle
Bedford, MA 01730-2346
Telephone: (781) 275-6050
Toll Free: (800) 877-6050
Facsimile: (781) 275-5651
E-mail: info@mabbett.com
Website: www.mabbett.com

Mabbett & Associates, Inc.
Environmental Consultants & Engineers

A SERVICE DISABLED VETERAN OWNED SMALL BUSINESS

5 Alfred Circle
Bedford, Massachusetts
01730-2318
Tel: (781) 275-6050
Fax: (781) 275-5651
info@mabbett.com
www.mabbett.com

June 24, 2009

Mr. Donald Heller
US EPA Region V
PCB Coordinator
77 W Jackson Blvd.
Chicago, IL 60604

Re: E-mail Information Request - June 18, 2009
Bodycote Thermal Processing
Melrose Park, IL
Project No. 1998002.258

Dear Mr. Heller:

Per your e-mail request on June 18, 2009, I have included in this letter information that was requested.

1. Enclosed is a copy of the IEPA Approved Remedial Action Plan dated August 16, 2000.

2. The TCE drums associated with the DNAPL system are located inside the building. The actively accumulating drums are located on secondary containment in the Hazardous Waste Accumulation area located 15 feet west of M&A-113. The Hazardous Waste Accumulation Area is chained off so employees cannot get within 10 feet of the drums. The drums are hooked up to the system in a manner that makes them almost air tight. During each site visit M&A personnel screen the air, utilizing a photo-ionization detector (PID) at the perimeter of the Hazardous Waste Accumulation Area and then three inches away from all areas on the 55-gallon drum where potential vapors may escape. VOCs have not been detected above indoor air background levels since the initiation of the program in 2000. There is a large overhead door nearby (within 15 feet) that is usually kept open to allow fresh air into the building due to the heat treatment processes inside the facility. There are over 30 exhaust vents in the area that keeps fresh air flowing in through the doors and windows. We will be out at the facility later this week and can take a few photographs of the collection drum.

3. The recovered oil is disposed of at:
Teris – El Dorado
309 American Circle
El Dorado, AR 71730
US EPA ID # ARD069748192

I have included a copy of an Arkansas Uniform Hazardous Waste Manifest from a past hazardous waste pick-up at Bodycote Thermal Processing.

Please contact Christopher Mabbett or myself if you have any questions regarding this information.

Very truly yours,

MABBETT & ASSOCIATES, INC.

BY:

James R. Greacen, PG
Director of Site Assessment and Restoration

/tw

Enclosure: Copy of IEPA Approved Remedial Action Plan dated August 16, 2000

cc: CLM, (MF)

5 Alfred Circle, Bedford, Massachusetts 01730-2318 · Tel: (781) 275-6050 · Fax: (781) 275-5651 · info@mabbett.com www.mabbett.com

Arkansas Department of Environmental Quality

Arkansas Department of Environmental Quality
Hazardous Waste Division
P.O. Box 8913, Little Rock, AR 72219-8913
Telephone: (501) 682-0833

COPY
6-21-09

1

Please print or type. *(Form designed for use on elite (12-pitch) typewriter.)*

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: I L D 0 0 5 0 7 1 8 0 8 | Manifest Document No.: 0 5 1 5 2 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
BODYCOTE THERMAL PROCESSING
1975 NORTH RUBY STREET
MELROSE PARK, IL. 60160
4. Generator's Phone ( ) (708)344-4080

A. State Manifest Document Number: AR-1577152
B. State Generator's ID:

5. Transporter 1 Company Name: SMITH SYSTEMS TRANSPORTATION,INC
6. US EPA ID Number: N E D 9 8 6 3 8 2 1 3 3
C. State Transporter's ID: 1100
D. Transporter's Phone: (308)632-5148

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
TERIS - EL DORADO
ATTN: LARRY TODD
309 AMERICAN CIRCLE
EL DORADO, AR 71730
10. US EPA ID Number: A R D 0 6 9 7 4 8 1 9 2
G. State Facility's ID: D0005
H. Facility's Phone: (870)863-7173

11. US DOT Description *(Including Proper Shipping Name, Hazard Class and ID Number)*	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ,ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,N.O.S 9, UN3082,PGIII (D040) (TRICHLOROETHYLENE) ERG#171	0 0 4	D M	0 0 2 2 0	G	PCB(V) D040
b.					
c.					
d.					

COPY
6-21-09

J. Additional Description for Materials Listed Above: 11A. WS#1435731

K. Emergency Response Information: (708)344-4080 - C. KENNY OR (781(-275-6050-C.MABBITT

If no alternate TSDF, return to generator: 1101

15. Special Handling Instructions and Additional Information
11A. OSD are 4/24/03, 4/25/04, 8/6/04 and 4/26/05 - FAX on file from William F. Simons. 12/7/05 (1) (2) (3) (4)
added pcb to Sec E.
LAND BAN CERTIFICATION ATTACHED

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and Arkansas state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name	Signature	Month	Day	Year
CHUCK KENNY	Chuck Kenny	1	1	22 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
LARRY TOWNSEND		1	12	05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year
MARION SMITH		1	22	05

ACKNOWLEDGMENT

This Remedial Action Plan concerning soil and groundwater contamination at the Heat Treating Building was prepared by Mabbett & Associates, Inc. (M&A) on behalf of its client, Lindberg Corporation.

This Remedial Action Plan regarding contaminants of concern in soil and groundwater at a property located at 1975 North Ruby Street, Melrose Park, Illinois (the Site) has been prepared for the sole and exclusive use of Lindberg Corporation (Client) and for submission to the Illinois Environmental Protection Agency (IEPA). This report is subject to and issued in connection with Letter-Agreements dated February 3, 1987; March 31, 1988; June 12, 1989; January 12, 1994; May 27, 1994; July 15, 1994; August 24, 1994; March 4, 1995; August 23, 1995; February 20, 1997; April 3, 1997; July 22, 1997; May 14, 1998; December 21, 1998; and May 23, 1999. This report was prepared based in part on the findings presented in M&A's *Remedial Objectives Report* dated October 26, 1999 and in accordance with IEPA's technical review letter dated May 15, 2000.

Any use or reliance upon information provided in this report, without the specific written authorization of the Client and M&A, shall be at the User's sole risk. Except as defined in M&A's scope of work and presented in this report, accordingly, no attempt has been made to assess the compliance status of any past or present Owner or Operator of the Property with any federal, state, or local laws or regulations.

The findings, observations, and conclusions presented in this report, including the extent of subsurface explorations and other tests, are limited by the scope of services outlined in the Letter-Agreements. The professional opinions and findings presented in this report are based on the facts and information conveyed to or observed by M&A during completion of this phase of the project. Furthermore, site assessment and field operations have been performed in accordance with generally accepted engineering practices and procedures. No other warranty, expressed or implied, is made.

The assessment presented in this report is based solely upon the laws and regulations existing and applicable to this project as of the date of this report, as well as information gathered to date including a limited number of subsurface explorations made on the dates indicated. Should further environmental or other relevant information be developed at a later date, Client should bring such information to the attention of M&A as soon as possible. Based upon an evaluation, M&A may modify this report and its conclusions, accordingly.

This Remedial Action Plan was prepared by the following M&A personnel:

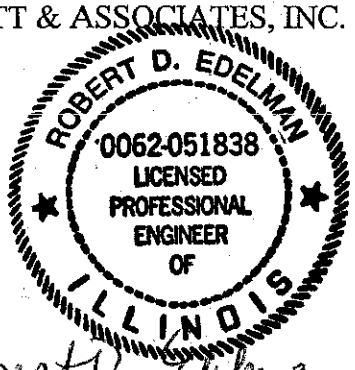
Mark D. Hilyard
Environmental Scientist-Hydrogeologist

ACKNOWLEDGMENT
(Continued)

This report was reviewed and approved by:

MABBETT & ASSOCIATES, INC.

BY:



Robert D. Edelman

Robert Edelman, P.E.
Senior Project Manager

COPY
06-21-09

Paul D Steinberg

Paul D. Steinberg, P.E., LSP
Associate Director of Site Assessment and Remediation Group and
Senior Project Manager

David A. Carlson

David A. Carlson, LSP, LEP
Vice President

EXECUTIVE SUMMARY

This Remedial Action Plan (RAP) was prepared by Mabbett & Associates, Inc. (M&A) for the Lindberg Heat Treating Corporation facility located at 1975 North Ruby Street, Melrose Park, IL. This RAP was developed in accordance with 35 Illinois Administrative Code 740.445 and addresses soil and groundwater contamination located beneath the Heat Treating Building (HTB) at the property.

Based on information presented in the *Site Investigation Report*, dated September 22, 1998, two areas of contamination have been defined beneath the HTB. A lens of dense non-aqueous phase liquid (DNAPL) is centered about intermediate depth well M&A-113. An additional lens of light non-aqueous phase liquid (LNAPL) is centered about well M&A-114. Both areas of contamination are located entirely beneath the HTB building footprint and are currently being contained and remediated by product recovery systems.

Tier 2 soil and groundwater remedial objectives were proposed by M&A in a *Remedial Objectives Report* (October 1999) and conditionally approved with modification by the Illinois Environmental Protection Agency (IEPA) in a May 15, 2000 technical review letter. Soil remedial objectives at the HTB are based in part on exclusion of the industrial/commercial inhalation and ingestion pathways. To restrict potential future exposure via these pathways the following actions will be taken:

- The concrete slab floor currently present over the residual contamination will be maintained as an engineered barrier.
- A deed restriction (institutional control) will be implemented for the area of soil contamination to manage potential future exposure to residual contamination.
- An institutional control has been enacted by the Village of Melrose Park and approved by IEPA, which prohibits groundwater usage in Melrose Park where the Lindberg facility is located.

Groundwater remedial objectives are based in part on pathway exclusion, provided that LNAPL at well M&A-114 and DNAPL at well M&A-113 are removed to the maximum extent practicable and environmental institutional controls restricting groundwater usage are implemented. LNAPL removal at well M&A-114 was initiated in November 1997 and is substantially complete. DNAPL removal at well MA&-113 was initiated in November 1997 and has significantly reduced the volume of recoverable DNAPL.

Lindberg has submitted to IEPA certified copies of the following ordinances to serve as an environmental institutional control for groundwater pathway exclusion.

- Melrose Park Ordinance No. 321, *An Ordinance Prohibiting the Use of Groundwater as a Potable Water Supply by the Installation or Use of Potable Water Supply Wells or by any Other Method, for the Village of Melrose Park, County of Cook, State of Illinois.*

- Melrose Park Ordinance No. 509, *An Ordinance Authorizing and Approving the Adoption of a Memorandum of Understanding Between the Village of Melrose Park and the Illinois Environmental Protection Agency in Connection with Establishing Institutional Controls for the Use of Groundwater as a Potable Supply in the Village of Melrose Park, County of Cook, State of Illinois.*

- *Memorandum of Understanding Between the Village of Melrose Park and the Illinois Environmental Protection Agency Regarding the Use of a Local Groundwater/Water Well Ordinance as an Environmental Institutional Control.*

Semi-annual monitoring of key groundwater monitoring wells will be conducted at the Site until LNAPL and DNAPL are removed to the maximum extent practicable and groundwater remedial objectives have been achieved. Semi-annual groundwater monitoring reports summarizing analytical data and operation and maintenance of the recovery systems will be submitted to IEPA.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF DRAWINGS

LIST OF APPENDICES

I. INTRODUCTION

This Remedial Action Plan (RAP) was prepared by Mabbett and Associates, Inc. (M&A) for the Lindberg Heat Treating Corporation facility located at 1975 North Ruby Street, Melrose Park, IL. This RAP was developed in accordance with 35 Illinois Administrative Code 740.445 and addresses soil and groundwater contamination associated with a lens of light non-aqueous phase liquid (LNAPL) and a separate lens of dense non-aqueous phase liquid (DNAPL) identified beneath the facility's Heat Treating Building (HTB). Two additional petroleum releases have been delineated at wells MCA-2 and M&A-301 (IEMA Incident No.s 891730 and 981877, respectively). However, these two releases are associated with former underground storage tanks and are being administered by the Illinois Environmental Protection Agency (IEPA) under the leaking underground storage tank (LUST) program. The aerial extent of the LNAPL and DNAPL lenses were delineated in a *Focused Site Investigation Report* submitted to IEPA by M&A on September 22, 1998, which was approved by IEPA in an April 27, 1999 correspondence.

Site specific Tier 2 groundwater and soil remedial objectives were developed and presented in a *Remedial Objectives Report, Heat Treating Building* submitted by M&A to the IEPA on October 26, 1999. The Soil Remedial Objectives (SROs) for volatile organic compounds (VOCs) were approved by IEPA in a May 15, 2000 technical review letter. In addition, IEPA established the maximum detected concentrations for each contaminant of concern (COC) within HTB groundwater as the Tier 2 Groundwater Remedial Objectives (GROs).

Approval of the GROs is contingent on the removal of DNAPL and LNAPL to the maximum extent practicable, implementation of a deed restriction, and semi-annual groundwater monitoring. Approval of the SROs is contingent on the maintenance of an engineered barrier and implementation of institutional controls restricting activities in the area of soil contamination and restricting groundwater usage on the property.

Major components of the RAP include:

- Ongoing removal of DNAPL from well M&A-113 to the maximum extent practicable.
- Ongoing removal of LNAPL from well M&A-114 to the maximum extent practicable.
- Implementation of an institutional control for pathway exclusion of soil.
- Implementation an institutional control for pathway exclusion of groundwater.

- Maintenance of an engineered barrier (concrete floor).
- Semi-annual groundwater monitoring of select groundwater monitoring wells until the source areas are remediated (i.e. free product is removed to the extent practicable) and compliance with GROs is achieved.

No additional construction activities are anticipated to implement the RAP. A semi-automatic pneumatic bladder pump recovery system has been effectively removing DNAPL from well M&A-113 since November 1997. A belt skimmer recovery system has been effectively removing LNAPL from well M&A-114 since November 1997. Detailed descriptions of these recovery systems and their performance are presented in Section V of this report.

VOC contaminated soil and groundwater are located entirely beneath the HTB building footprint. SROs and GROs are based, in part, on industrial/commercial land use limitations and pathway exclusions at the Site. Institutional controls, in the form of restrictive covenants and/or deed restrictions, will be implemented in conjunction with the use of an existing engineered barrier (concrete floor) to exclude the potential soil ingestion and inhalation pathways.

Exclusion of the groundwater ingestion pathway is achieved (once free product is removed) by an IEPA approved municipal ordinance, which imposes groundwater use restrictions. Institutional controls are discussed in detail in Section IV of this report.

II. CURRENT AND POST-REMEDIATION USE OF THE PROPERTY

The Lindberg facility consists of a large industrial complex of approximately twelve interconnected buildings, adjacent paved parking areas and concrete slab on grade foundations of former facility buildings. The facility was constructed in the 1950s and has been the site of heat treating facility operations since that time. The Site is zoned "Industrial" and is planned for use as a manufacturing facility into the foreseeable future. The Lindberg facility is surrounded by high-density commercial/industrial operations for an approximate ½ mile radius from the Property. Drawing L-1 depicts Site location and surrounding land use. Drawings L-2 and L-3, Site Plan and Site Plan Detail A, respectively, illustrate the area of concern for this RAP. The Lindberg facility will remain in industrial use for the foreseeable future.

III. STATEMENT OF REMEDIAL OBJECTIVES

Tier 2 Remedial Objectives for each COC beneath the HTB were proposed in the M&A *Remedial Objectives Report, Heat Treating Building* dated October 26, 1999. SROs were approved and GROs were conditionally established by IEPA in a letter dated May 15, 2000.

Soil

Tier 2 SROs were developed in accordance with 35 Illinois Administrative Code Part 742.000, Tiered Approach to Corrective Action Objectives (TACO Section 742) using all soil sampling data points where reported COC concentrations were above applicable Tier 1 remedial objectives but below the soil saturation limit (C_{sat}). The resulting Tier 2 Ingestion and Inhalation SROs for both the industrial/commercial and construction worker scenarios are presented in Table 1, Comparison of Soil Analytical Results to Tier 2 Remedial Objectives. Sampling locations within the HTB are depicted on Drawing L-3, Site Plan Detail A.

Soil sample data point SS-1 from boring M&A-111 and SS-16 from boring M&A-113 were excluded from the Tier 2 analysis since trichloroethylene (TCE) concentrations (1,400,000 ug/kg and 3,600,000 ug/kg, respectively) exceeded the TCE C_{sat} of 1,300,000 ug/kg.

COC concentrations for each discrete soil sampling data point were compared to calculated applicable Tier 2 SROs pursuant to TACO Section 742.600 (f), (g), and (h). Two COCs, vinyl chloride and TCE were reported in soils at concentrations greater than the applicable Tier 2 SROs. TCE concentrations that exceeded applicable Tier 2 SROs were reported at sampling points M&A-115 (24.5-25 feet), M&A-104 (25-27 feet), and M&A-110 (25-25.5 feet). Vinyl chloride concentrations that exceeded applicable Tier 2 SROs were reported at sample points M&A-121 (10.5-11 feet), M&A-127 (6-6.5 feet), and M&A-105 (13-15 feet). Refer to Table 1 for a complete listing of all COCs detected in soil and their calculated Tier 2 SROs.

A total of six sampling points exhibited COC concentrations that exceed applicable Tier 2 Inhalation Exposure Pathway SROs. However, all but one (M&A-127) were located greater than ten feet below grade and therefore were excluded from consideration. The one soil sample from M&A-127 was collected at approximately six feet below grade. However, this sampling point was located beneath an engineered barrier (concrete slab floor) as defined in TACO Subpart K and therefore was also

excluded from consideration based upon the presence of an engineered barrier and contingent on the implementation of an institutional control.

IEPA approved the SROs in a May 15, 2000 correspondence. Approval of these SROs is contingent upon:

- Implementation of a deed restriction (Institutional Control) for the area of soil contamination extending to the 0 mg/kg contour line depicted on Drawing L-4.
- Maintenance of the concrete-slab floor currently present over the contamination to serve as an engineered barrier as depicted in Drawing L-4.
- Implementation of an institutional control restricting groundwater usage at the property

Groundwater

In the May 15, 2000 correspondence IEPA established the following Tier 2 GROs for each COC at the HTB at:

Parameter	Shallow Groundwater	Intermediate Groundwater
1,1-dichloroethylene	0.12 mg/L	0.19 mg/L
cis-1,2-dichloroethylene	480 mg/L	240 mg/L
trans-1,2-dichloroethylene	0.8 mg/L	0.11 mg/L
tetrachloroethene	68 mg/L	200 mg/L
trichloroethylene	1100 mg/L	1100 mg/L
vinyl chloride	7.2 mg/L	0.16 mg/L

These GROs are based on the highest reported concentrations for each COC at the HTB and on an independent Tier 2 Groundwater Evaluation conducted by IEPA. Groundwater concentrations at the Site currently do not exceed the GROs outside the source areas. The results of both the M&A and IEPA Tier 2 groundwater evaluations are presented in Appendix A.

IEPA's establishment of the above listed GROs was contingent on:

- Removal of DNAPL from well M&A-113 and LNAPL from well M&A-114 to the maximum extent practicable.

- Implementation of an environmental institutional control restricting groundwater use at the facility.
- Implementation of a semi-annual groundwater monitoring program at select groundwater monitoring wells until free product is removed to the maximum extent practicable and compliance with GROs is achieved.

IV. INSTITUTIONAL CONTROLS AND ENGINEERED BARRIERS

The following institutional controls will be maintained to prevent human exposure to residual groundwater and soil contamination.

Groundwater

Tier 2 GROs established by IEPA in the May 15, 2000 correspondence, were contingent on the implementation of specific institutional controls at the facility.

Pursuant to Illinois Administrative Code 742.100 (Subpart J), institutional controls must be used when a subject property is determined to be industrial/commercial and when the point of human exposure is located at a place other than the source. The following ordinances have been adopted and were implemented as an environmental institutional control.

- *Ordinance No. 321, An Ordinance Prohibiting the Use of Groundwater as a Potable Water Supply by the Installation or Use of Potable Water Supply Wells or by any Other Method, for the Village of Melrose Park, County of Cook, State of Illinois.*

- *Ordinance No. 509, An Ordinance Authorizing and Approving the Adoption of a Memorandum of Understanding Between the Village of Melrose Park and the Illinois Environmental Protection Agency in Connection with Establishing Institutional Controls for the Use of Ground Water as a Potable Water Supply in the Village of Melrose Park, County of Cook, State of Illinois.*

- *Memorandum of Understanding Between the Village of Melrose Park and the Illinois Environmental Protection Agency Regarding the Use of a Local Groundwater/Water Well Ordinance as an Environmental Institutional Control.*

Certified copies of the above-listed ordinances were submitted to IEPA on June 29, 2000 and copies are provided in Appendix B.

Soil

Tier 2 SROs proposed by Lindberg and approved by IEPA in the May 15, 2000 correspondence were contingent on the maintenance of an engineered barrier and implementation of an associated deed restriction (institutional control) for the area of residual soil contamination. The portion of the property that is underlain by remaining soil contamination is completely covered by an approximately 8-inch thick reinforced concrete-slab floor. No cracks, pits, or sumps have been observed in the floor. The area subject to the deed restriction, limiting Site usage and requiring maintenance of an engineered barrier, is depicted on Drawing, L-4.

A deed restriction is included in Appendix E of this report. This deed restriction specifically delineates the portion of the property subject to the institutional control and establishes permitted and non-permitted activities within the area of institutional control. In addition, Lindberg will maintain a Site-Specific Health and Safety Plan (HASP) and Soil Management Plan. The HASP will include provisions to minimize and manage potential exposure to contaminated soil and groundwater should excavation or construction activities be required in this area in the future. Due to the lack of subsurface utilities at this portion of the property, Lindberg does not anticipate any intrusive activities to occur in this area. However, the Soil Management Plan provides soil and groundwater management procedures should excavation or construction activities be required in this area in the future.

Within 45 days of the receipt of no further remediation determination from IEPA, a deed restriction, prepared pursuant to 35 IAC 742.1010, will be recorded with IEPA and Office of the Recorder or Registrar of Titles for Cook County, State of Illinois. In addition, an institutional control, restricting the use of groundwater at the Site, will be established.

V. SELECTION OF REMEDIAL TECHNOLOGIES

Remedial technologies have been selected and implemented to address the presence of DNAPL at well M&A-113 and LNAPL at well M&A-114. DNAPL at M&A-113 consists of TCE and its degradation compounds and has impacted a sand unit located between 31-33 feet below grade. Due to the presence of an underlying dense silt/till unit, no additional vertical migration of DNAPL has been observed or is anticipated. Hydrogeologic characteristics of the Site are summarized in the *Remedial Objectives Report* dated October 26, 1999.

LNAPL at M&A-114 has been observed at the shallow groundwater table interface and is comprised of quench oil, which has physical properties similar to No. 2 fuel oil.

Both lenses of product were delineated in the *Site Investigation Report* submitted to IEPA on September 22, 1998 and approved by IEPA in a letter dated April 27, 1999. Descriptions of the remedial technologies implemented for source removal of DNAPL and LNAPL are described in the following sections.

DNAPL

The removal of DNAPL from well M&A-113 has been conducted since November 1997 with a stainless steel QED pneumatic Eliminator™ pump equipped with a teflon bladder. Manufacturer specifications for key elements of the QED Eliminator system are presented in Appendix C. A plan depicting features and controls of the product recovery system is presented in Drawing SK-1, Monitoring Well M&A-113 Product Recovery System Schematic.

The pump is set at 31 feet below grade at the bottom of well M&A-113, which is screened across the DNAPL impacted sand unit. The system is run on compressed air, which passes through a gross particle filter and oil coalescing filter prior to injection into the bladder pump. Pump air supply lines and product return lines are constructed of reinforced nylon tubing. Recovered product and groundwater is collected in a 55-gallon drum located adjacent to the well head.

The system is controlled by a QED DPS 360 pneumatic/electric controller. This controller includes a pressure regulator, solenoid switch, pressure gauge and electronic timers. The system also includes a

high level control consisting of a pneumatic shut-off control system. When the product storage drum is approximately 2/3 full a back-pressure device automatically shuts off the air supply for the pneumatically driven Eliminator™ pump, thus effectively shutting down the system.

As presented in M&A's *Site Investigation Report*, dated September 22, 1998, well M&A-113 appears to be located in the center of the DNAPL lens. The geology of the Site (silt, clay, and very fine sand) limits the use of alternative methods of remediation that can be employed for the removal of VOC contamination in soil and groundwater. Data presented in the *Site Investigation Report* and *Remedial Objectives Report* indicated that on-site soils have a very low permeability. High vacuums were applied to on-site recovery and groundwater monitoring wells with little or no soil vapor flow observed. A soil vapor recovery/groundwater pilot test conducted in October 1994 concluded that conventional pump and treat and/or soil vapor extraction techniques were not technically feasible alternatives to remediate soil and/or groundwater beneath the HTB.

Based on the results of well yield testing, as described in the *Site Investigation Report* (September 22, 1998), the bladder pump was programmed to pump approximately 2-3 gallons of fluids (DNAPL /groundwater) a day to maximize DNAPL recovery.

Installation and operation of the QED Eliminator pump and control system has had little impact on the daily operations at the facility. The pump apparatus is located entirely inside the well and the associated 55-gallon storage drum and tubing are protected by a steel enclosure. Operation and maintenance of the recovery system involves changing the product recovery drum approximately every two weeks and is completed by on-site maintenance personnel with technical assistance and oversight provided by M&A on a periodic and as needed basis.

Source removal efforts at well M&A-113 have yielded approximately 188 gallons of DNAPL and 909 gallons of groundwater. The proportionate amount of DNAPL recovered in each 55-gallon drum has been reduced from approximately 8-10 gallons per drum at system start up to approximately one gallon per drum. Based on the observed DNAPL recovery volumes, the volume of DNAPL present in the area of well M&A-113 has been significantly reduced. The recovery system operation will be maintained until recoverable DNAPL at well M&A-113 has been recovered to the maximum extent practicable. A plot of DNAPL volume observed in each drum and field reports for recovery system operation are provided in Appendix D. As shown by the plot, the relative quantity of DNAPL

recovered has been declining over time, indicating a decreasing trend in the mass of recoverable DNAPL in the subsurface.

LNAPL

LNAPL from M&A-114 is being removed through the use of an ABANAKI PetroXtractor™ Well Oil Skimmer, which has been operational at well M&A-114 since November 20, 1997. The belt skimmer discharges into a 55-gallon drum equipped with an automatic overflow shut off. Prior to installation of the recovery system, a maximum LNAPL layer of two feet was observed at well M&A-114. Hand bailing of product from the well reduced the average LNAPL thickness to two inches or less, at which time the belt skimmer was installed. During the first week of operation the belt skimmer was operational for approximately three hours a day. However, field reports indicated that after one week no additional recharge of LNAPL appeared to be occurring. The frequency of belt skimmer operation was reduced to 1-2 hours several times a week. Currently the belt skimmer is operated twice a week for approximately four hours at a time. A plan depicting major features and controls of the product recovery system is presented in Drawing SK-2, Monitoring Well M&A-114 Product Recovery System Schematic, and manufacturer's specifications are presented in Appendix C. Field reports for the operation of the belt skimmer are provided in Appendix D.

As presented in M&A's *Site Investigation Report* (September 22, 1998), well M&A-114 is located in the center of the LNAPL lens. The geology of the Site (silt, clay, and very fine sand) limits the use of alternative methods of remediation that can be employed for the removal of LNAPL contamination to soil and groundwater. Data presented in the *Site Investigation Report* and *Remedial Objectives Report* indicate that on-site soils have a very low permeability. High vacuums were applied to on-site recovery and groundwater monitoring wells with little or no soil vapor flow observed. A soil vapor recovery/groundwater pilot test conducted in October 1994 concluded that conventional pump and treat and/or soil vapor extraction techniques were not technically feasible alternatives to remediate soil and/or groundwater beneath the HTB.

Installation and operation of the ABANAKI PetroXtractor™ Well Oil Skimmer has had minimal impact to the daily operation of the facility. Operation of the remediation system involves on-site maintenance personnel turning on the power supply for operation on a semi-weekly basis. Field reports are forwarded to M&A for review on a regular basis.

Through July 6, 2000, a total of approximately 15 gallons of oil have been recovered from well M&A-114. Field reports have indicated little or no product on the belt skimmer for the past six months. The belt skimmer will be removed and the recurrence of LNAPL will be monitored by an oil absorbent sock. This sock will be placed in the well to collect any potential residual oil that may appear on the water table. If after a three-month period, product does not re-appear, recovery operations will be considered to have removed LNAPL to the maximum extent practicable.

VI. CONFIRMATORY GROUNDWATER MONITORING PROGRAM

Semi-annual sampling, analysis, and reporting of groundwater conditions at key monitoring wells will be conducted until free product is removed to the maximum extent practicable and residual VOC concentrations in groundwater meet established GROs.

- The distribution of TCE in intermediate depth groundwater will be monitored by sampling intermediate depth wells M&A-111, M&A-115, M&A-119, M&A-121, M&A-122, and M&A-126.

- The distribution of vinyl chloride in shallow groundwater will be monitored by sampling shallow wells MCA-2, M&A-107, M&A-112, M&A-116, and M&A-120.

- The distribution of VOCs in shallow groundwater will be monitored by sampling shallow wells M&A-103, M&A-104, M&A-105 and MCA-5.

Groundwater samples will be analyzed for halogenated VOCs by EPA Method 8010. Groundwater sampling results will be reviewed with respect to GROs, historical trends, and contaminant distribution. Groundwater data will be tabulated and contaminant distribution maps will be prepared as appropriate. A summary report will be prepared and submitted to IEPA within 30 days of receipt of the analytical data.

VII. SUMMARY AND CONCLUSIONS

Based on information presented in a *Site Investigation Report* (September, 1998) two areas of contamination have been defined beneath the HTB. A lens of DNAPL is centered about intermediate depth well M&A-113 and a lens of LNAPL is centered about well M&A-114. Both areas are located entirely beneath the HTB footprint and are currently being contained and remediated by extraction equipment. Tier 2 SROs and GROs were proposed in a *Remedial Objectives Report* (October 1999) and were conditionally approved by IEPA in a May 15, 2000 technical review letter.

Remedial Objectives

Groundwater quality at the Site currently meets the prescribed GROs outside of the source areas for LNAPL and DNAPL. Recovery systems are in operation to remove source area LNAPL and DNAPL to the maximum extent practicable. A semi-annual groundwater monitoring program will be implemented to confirm compliance with GROs until the source areas are remediated. An institutional control had been implemented to prohibit the use of groundwater as a potable water supply in the area of the Site.

Soil conditions meet the prescribed SROs. The existing concrete-slab floor will be maintained as an engineered barrier to exclude potential exposure pathways associated with residual soil contamination. A deed restriction will be recorded with the state of Illinois and village of Melrose Park within 45 days of receipt of a No Further Remediation designation from IEPA.

Remedial Technologies

Product recovery systems have been effective in the removal of DNAPL and LNAPL since operations were initiated in 1997. Both remedial systems have been demonstrated to be reliable technologies over the past three years.

LNAPL at M&A-114 appears to have been effectively removed by the belt skimmer product recovery system. Recoverable quantities of LNAPL have not been observed in the past six months. The deployment of absorbent media in the well is proposed to monitor the presence of LNAPL and to absorb any recurring product. If LNAPL is not observed after monitoring period of three additional months it will be concluded the LNAPL has been remediated to the maximum extent practicable.

The DNAPL recovery rate at well M&A-113 has been decreasing with time. The drop in the recovery rate indicates that the mass of recoverable DNAPL in the subsurface has been significantly reduced. The operation of the recovery system will continue until recovery data confirms that DNAPL has been remediated to the maximum extent practicable. Based on current data, it is anticipated that the recovery system will remain in operation for the next 12 to 24 moths.

Institutional Controls

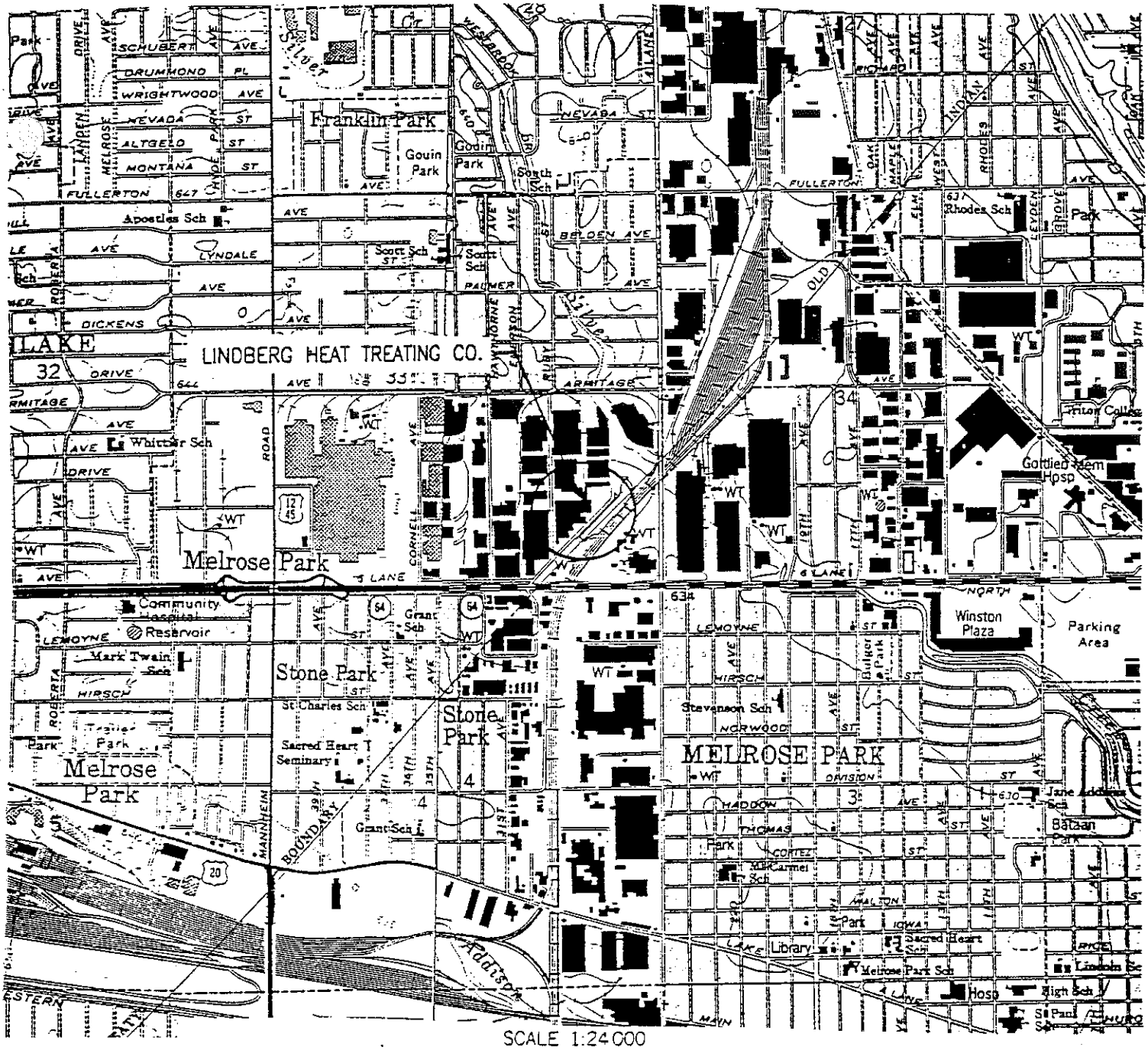
Pursuant to TACO Section 742.600 and IEPA May 15, 2000 correspondence, Lindberg has submitted certified copies of Melrose Park Ordinance No. 321, *An Ordinance Prohibiting the Use of Groundwater as a Potable Water Supply by the Installation or Use of Potable Water Supply Wells or by any Other Method, for the Village of Melrose Park, County of Cook, State of Illinois* and Melrose Park Ordinance No. 509, *An Ordinance Authorizing and Approving the Adoption of a Memorandum of Understanding Between the Village of Melrose Park and the Illinois Environmental Protection Agency in Connection with Establishing Institutional Controls for the Use of Groundwater as a Potable Supply in the Village of Melrose Park, County of Cook, State of Illinois* to IEPA to serve as environmental institutional controls that exclude the groundwater exposure pathway at the Site.

In addition a copy of the *Memorandum of Understanding Between the Village of Melrose Park and the Illinois Environmental Protection Agency Regarding the Use of a Local Groundwater/Water Well Ordinance as an Environmental Institutional Control* was submitted to the IEPA.

A Proposed deed restriction, to serve as an institutional control for residual soil contamination, is included in Appendix E of this report. Upon receipt of a No Further Remediation designation from IEPA, this deed restriction will be recorded pursuant to 35 Ill. Admin. Code 742.1010.

Groundwater Monitoring Program

Semi-annual sampling, analysis, and reporting of groundwater conditions at key groundwater monitoring wells will be conducted until final remediation of the units is achieved. Groundwater samples will be analyzed for halogenated VOCs by EPA method 8010 to monitor the LNAPL and DNAPL constituents previously identified beneath the HTB. A summary report will be prepared and submitted to IEPA within 30 days of the receipt of the analytical data.



CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1993 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

RIVER FOREST QUADRANGLE
ILLINOIS–COOK CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

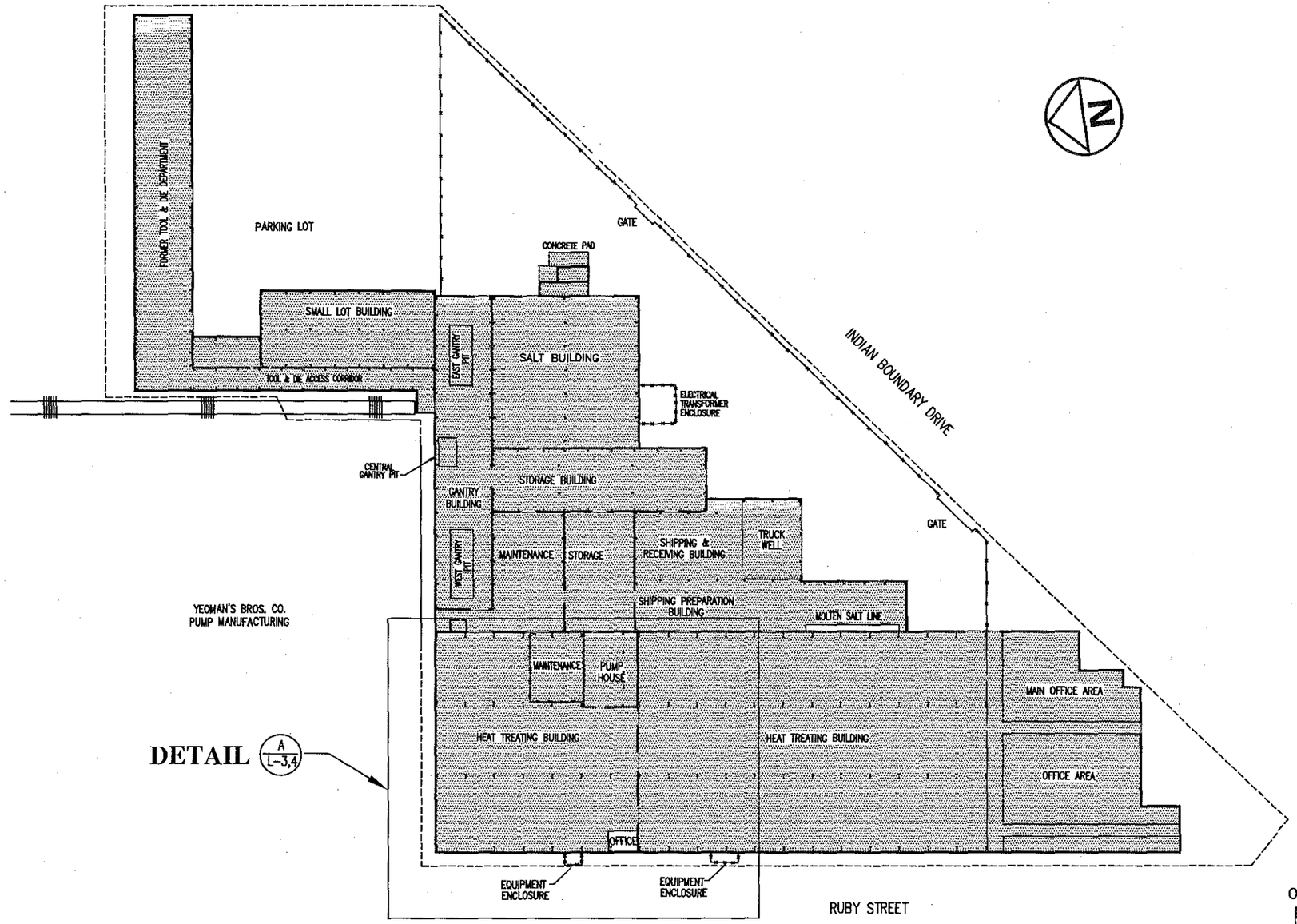
LINDBERG HEAT TREATING CO.
MELROSE PARK, IL

SITE LOCATION MAP

Mabbett & Associates, Inc.
Environmental Consultants & Engineers

SCALE: AS NOTED | DR BY: DJA
DATE: 10/22/99 | AP BY: PBS

DWG NO. L-1
PROJ NO. 98002.43



NOTES:

1. THE INFORMATION ON THIS PLAN IS BASED ON A PLAN ENTITLED LINDBERG CORPORATION, 1975 NORTH RUBY STREET, MELROSE PARK, ILLINOIS BY MARSH & MCLENNAN, INC., PROPERTY LOSS PREVENTION DEPT. DATED MARCH 3, 1969 AND FIELD OBSERVATIONS BY M&A PERSONNEL. ALL LOCATIONS AND PROPERTY LINES ARE APPROXIMATE.

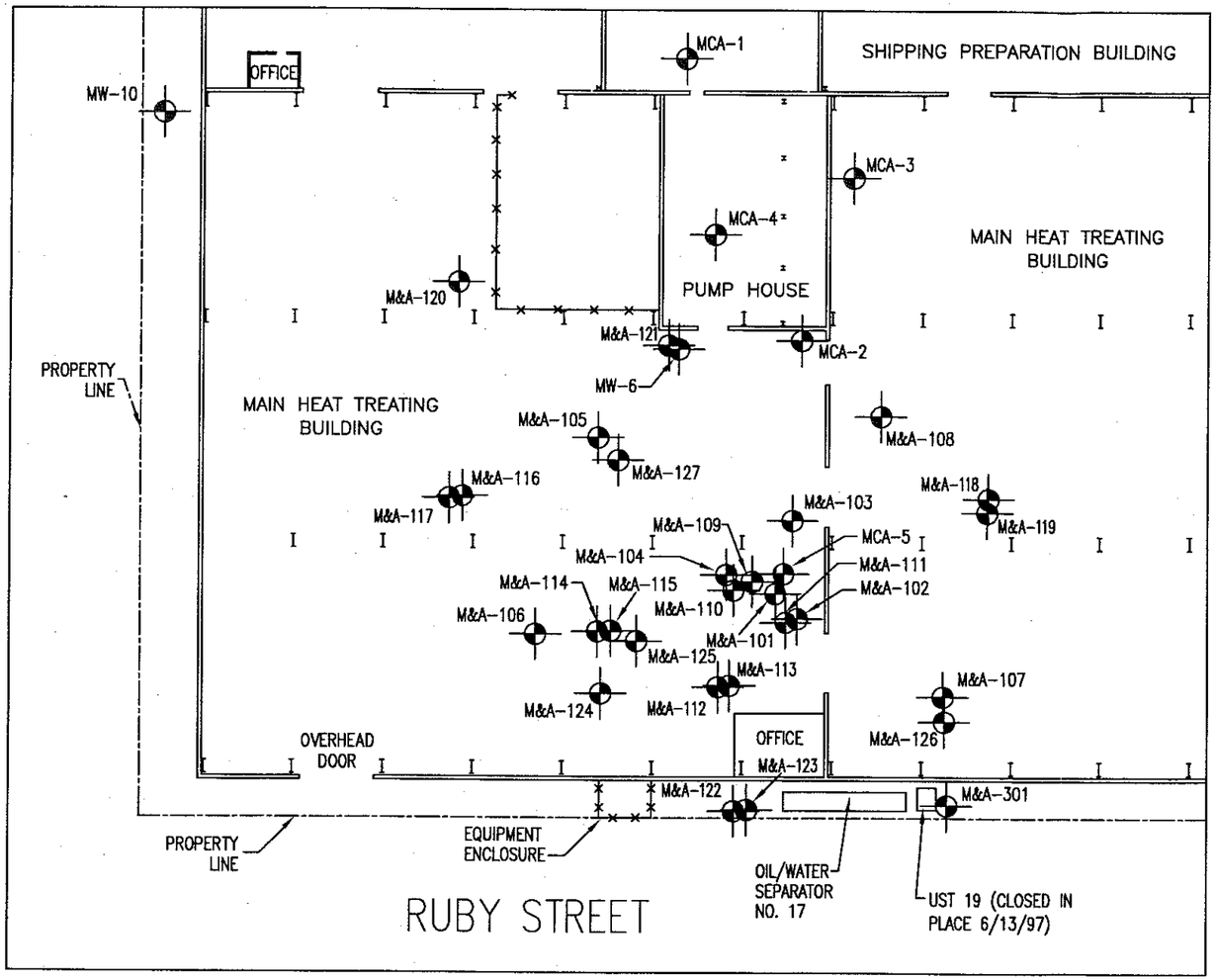
LEGEND:

- PROPERTY LINE
- SUPPORTING COLUMN
- SUPPORTING COLUMN
- CHAIN LINK FENCE
- RAIL SIDING
- AREA OF FACILITY BUILDING FINISHED WITH POURED CONCRETE-SLAB FLOOR

SCALE:

0' 100' 200' 300'

LINDBERG HEAT TREATING CO. MELROSE PARK, IL	SITE PLAN	DRAWING NO. L-2
Mabbett & Associates, Inc. Environmental Consultants & Engineers	SCALE: 1"=100'-0" DR BY: DJA DATE: 8/15/02 AP BY: PBS	PROJECT NO. 98002.60



DETAIL A

NOTES:

2. MONITORING WELL AND BORING LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.

2. MONITORING WELL AND BORING LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

LEGEND:

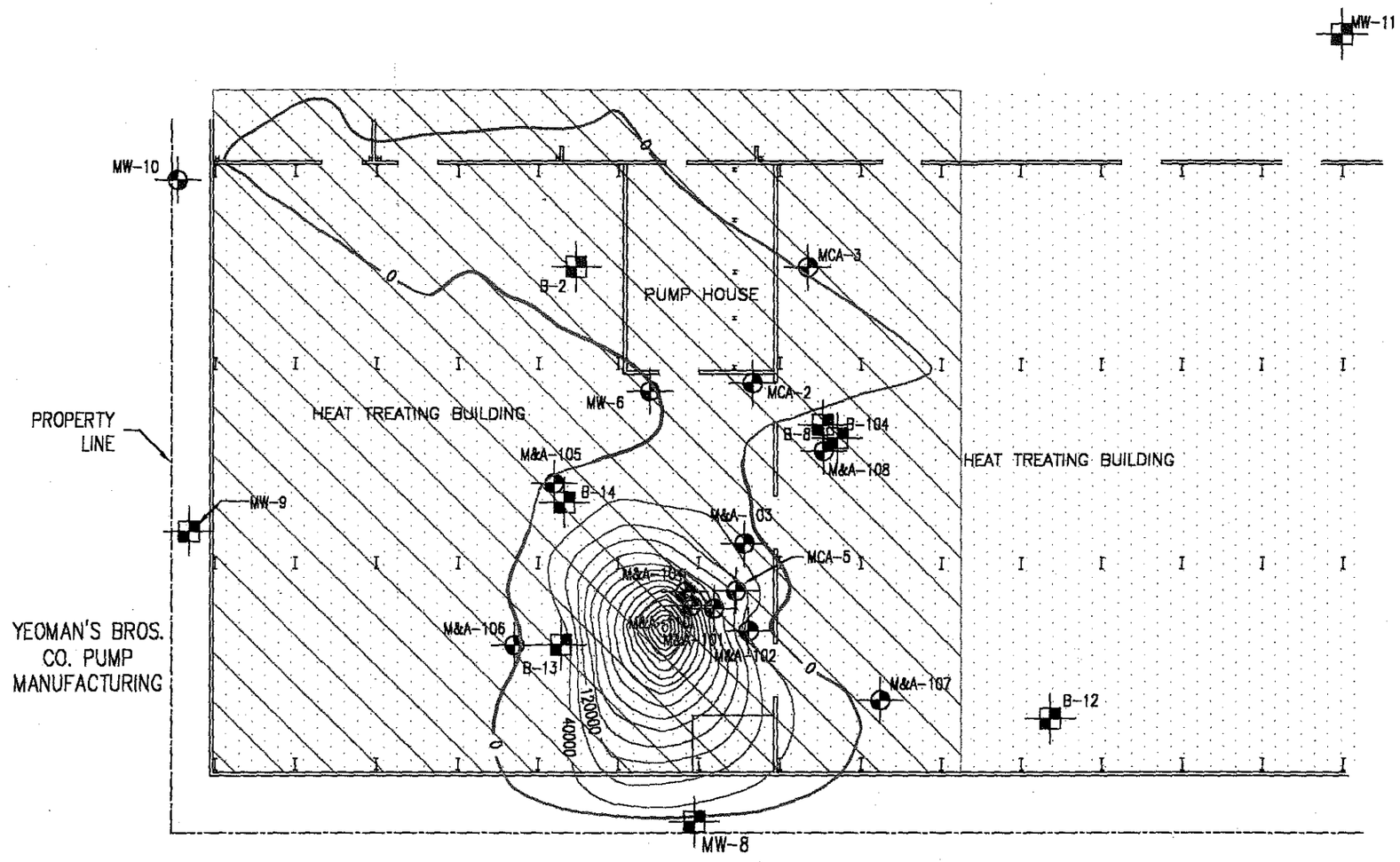
- MONITORING WELL LOCATION
- BORING LOCATION
- APPROXIMATE PROPERTY LINE
- CHAIN LINK FENCE
- SUPPORTING COLUMN

N

SCALE:

0 40' 80' 120'

LINDBERG HEAT TREATING CO. MELROSE PARK, ILLINOIS	DETAIL A, MONITORING WELL LOCATIONS PLAN		DRAWING NO. L-3
Mabbett & Associates, Inc. Environmental Consultants & Engineers	SCALE: 1"=40'-0"	DR BY: DJA	
	DATE: 9/4/02	AP BY:	PROJECT NO. 98002.60



NOTES:

1. MONITORING WELL LOCATIONS ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. ALL CONCENTRATION CONTOURS ARE APPROXIMATE BASED ON LIMITED DATA POINTS.
3. DIAGRAM TAKEN FROM A PREVIOUSLY GENERATED M&A REPORT.

LEGEND

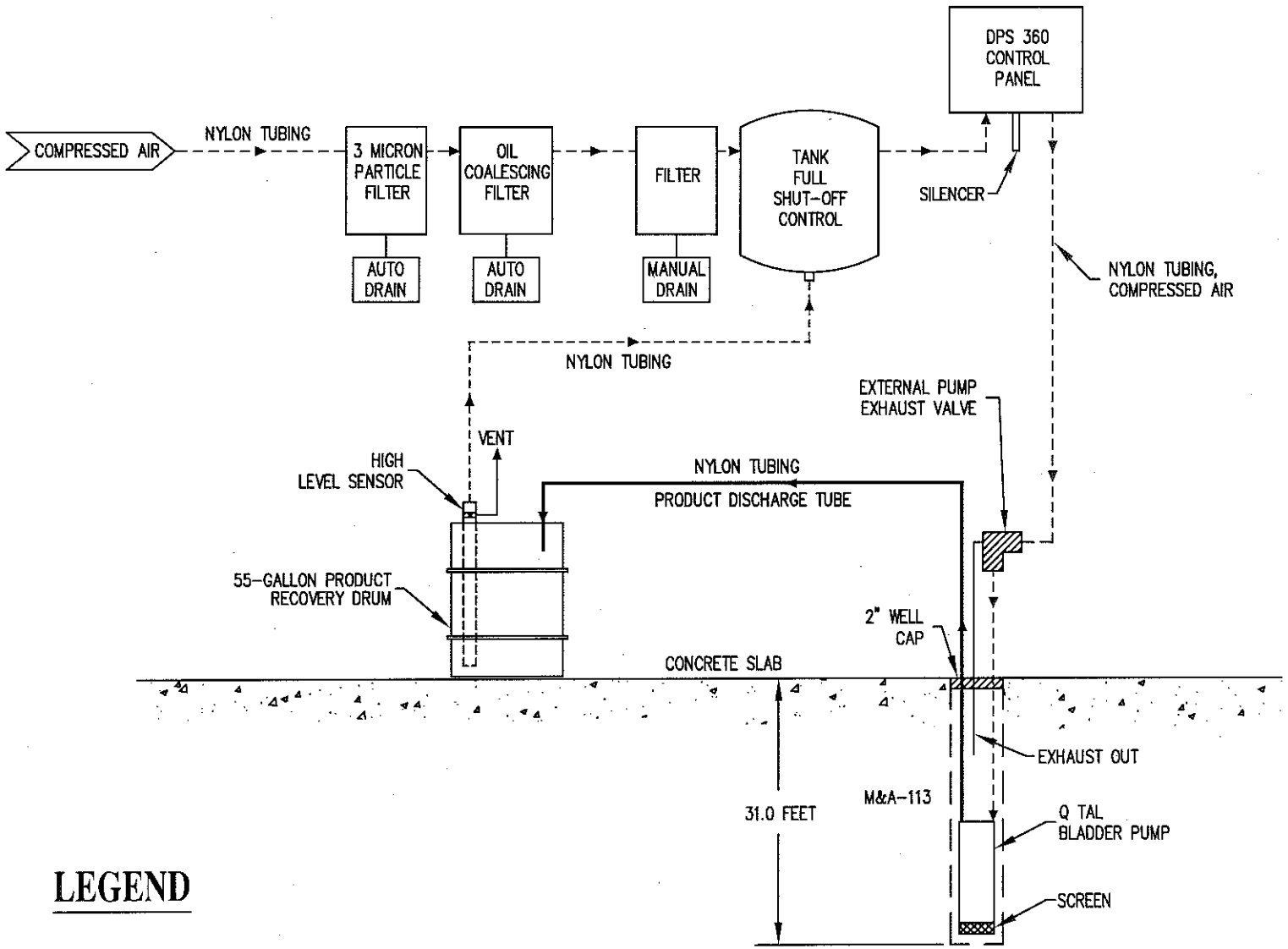
- MONITORING WELL LOCATION
- BORING LOCATION
- PROPERTY LINE
- 40,000 ug/kg — CONTOUR INTERVAL
- I — SUPPORT COLUMN
- AREA OF SOIL CONTAMINATION BENEATH HEAT TREATING BUILDING THAT IS SUBJECT TO DEED RESTRICTION IMPLEMENTED TO MAINTAIN THE EXCITING ENGINEERED BARRIER (CONCRETE-SLAB FLOOR)
- AREA OF FACILITY BUILDING FINISHED WITH POURED CONCRETE-SLAB FLOOR

SCALE:

0' 40' 80' 120'

N

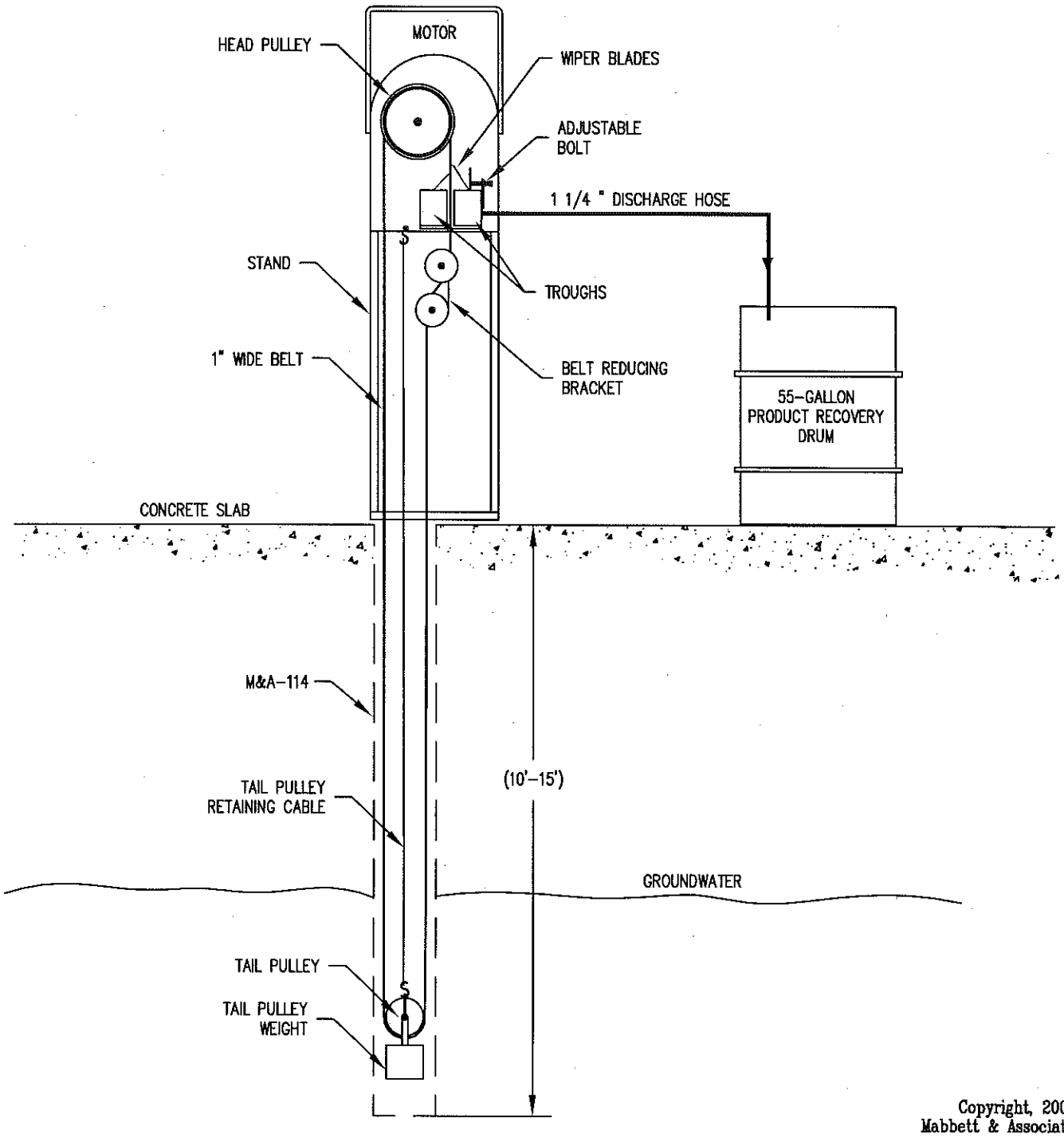
LINDBERG HEAT TREATING CO. MELROSE PARK, IL.	SITE PLAN DETAIL "A" AREA SUBJECT TO INSTITUTIONAL CONTROLS		DRAWING NO. L-4
Mabbett & Associates, Inc. Environmental Consultants & Engineers	SCALE: 1"=40'-0"	DR BY: DJA	
	DATE: 8/15/00	AP BY: RDS	PROJECT NO. 98002.60



LEGEND

- ► DIRECTION OF FLOW
- ------ COMPRESSED AIR TUBING
- ——— PRODUCT TUBING

LINDBERG HEAT TREATING CO. MELROSE PARK, ILLINOIS	MONITORING WELL M&A-113 PRODUCT RECOVERY SYSTEM SCHEMATIC	DWG NO. SK-1
Mabbett & Associates, Inc. Environmental Consultants & Engineers	SCALE: NONE / DR BY: DJA DATE: 8/15/00 / AP BY: PDS	PROJ NO. 89002.60



LINDBERG HEAT TREATING CO.

MELROSE PARK, ILLINOIS

MONITORING WELL M&A-114
PRODUCT RECOVERY SYSTEM
SCHEMATIC

Mabbett & Associates, Inc.
Environmental Consultants & Engineers

SCALE: NONE	DR BY: DJA
DATE: 8/15/02	AP BY: TRS

DWG NO. SK-2

PROJ NO. 98002.60

APPENDIX A

RESULTS OF M&A AND IEPA TIER 2 CALCULATIONS

Datasheet RBCA-VII. Concentration of Contaminant in Groundwater Source

Datasheet RBCA-VII is to be used to predict the groundwater concentration at a specified distance from the source as calculated by the equation in Appendix C of TACO: Equation R26 (residential, industrial/ commercial and construction worker scenarios). Since values listed in Datasheet RBCA-V are used in this evaluation, this datasheet must also be submitted.

Csource (mg/L)	See below	αy (cm)	203
X (cm)	6,100.00	Sd (cm)	180
αx (cm)*	610	αz (cm)	31
λ (1/day)***	See below	K (cm/d)	0.02
U (cm/d)*	0.0017	i (unitless)	0.0300
Sw (cm)	2,440	θT (unitless)**	0.40

* αx, αy, αz, and U are reported on Datasheet RBCA-V ** Physical Soil Parameter (see Datasheet B)

*** Chemical Properties (see Datasheet C)

Chemical Name	λ (1/day)	Csource* (mg/L)	C(x) (mg/L)
Dichloroethylene, 1,1-	0.0053000	0.12000	2.12E-191
Dichloroethylene, cis-1,2-	0.0002400	33.00000	3.95E-38
Dichloroethylene, trans-1,2-	0.0002400	0.80000	9.57E-40
Tetrachloroethylene	0.0009600	0.59000	1.24E-80
Trichloroethylene	0.0004200	270.00000	2.26E-50
Vinyl chloride	0.0002400	7.20000	8.62E-39

* Note: C_{source} is the measured concentration at the source for this form.

Initial Cleanup Objectives - SSL Procedure - Industrial/Commercial Exposure Scenario

This report presents the initial cleanup objectives (CUO) for the constituents at the site as determined by the Soil Screening (SSL) procedure. If the Mixture Rule is applicable, these initial Cleanup Objectives may be modified according to the procedures set forth in 35 IAC 740.805. All cleanup objectives are in mg/kg.

Constituent	Ingestion		Inhalation	
	CUO	Comments	CUO	Comments
Dichloroethylene, cis-1,2-	20,440.00	Based on non-carcinogenic effects	1,583.49	Inhalation of Volatiles: non-carcinogenic effects: Capped by Csat
Dichloroethylene, trans-1,2-	40,880.00	Based on non-carcinogenic effects	3,704.05	Inhalation of Volatiles: non-carcinogenic effects: Capped by Csat
Dichloroethylene, 1,1-	18,396.00	Based on non-carcinogenic effects	1,646.24	Inhalation of Volatiles: non-carcinogenic effects: Capped by Csat
Tetrachloroethylene	110.06	Based on carcinogenicity	26.73	Inhalation of Volatiles: carcinogenic effects
Trichloroethylene	520.29	Based on carcinogenicity	11.70	Inhalation of Volatiles: carcinogenic effects
Vinyl chloride	3.01	Based on carcinogenicity	0.08	Inhalation of Volatiles: carcinogenic effects
Total CUO Concentration	**80,349.36**		**6,972.29**	

Initial Cleanup Objectives - SSL Procedure - Construction Worker Exposure Scenario

This report presents the initial cleanup objectives (CUO) for the constituents at the site as determined by the Soil Screening (SSL) procedure. If the Mixture Rule is applicable these initial Cleanup Objectives may be modified according to the procedures set forth in 35 IAC 740.805. All cleanup objectives are in mg/kg.

Constituent	Ingestion		Inhalation	
	CUO	Comments	CUO	Comments
Dichloroethylene, cis-1,2-	20,404.51	Based on non-carcinogenic effects	1,583.49	Inhalation of Volatiles: non-carcinogenic effects: Capped by Csat
Dichloroethylene, trans-1,2-	40,809.03	Based on non-carcinogenic effects	3,704.05	Inhalation of Volatiles: non-carcinogenic effects: Capped by Csat
Dichloroethylene, 1,1-	1,836.41	Based on non-carcinogenic effects	1,646.24	Inhalation of Volatiles: non-carcinogenic effects: Capped by Csat
Tetrachloroethylene	2,388.49	Based on carcinogenicity	37.59	Inhalation of Volatiles: carcinogenic effects
Trichloroethylene	1,224.27	Based on non-carcinogenic effects	16.46	Inhalation of Volatiles: carcinogenic effects
Vinyl chloride	65.37	Based on carcinogenicity	0.11	Inhalation of Volatiles: carcinogenic effects
Total CUO Concentration	**66,728.08**		**6,987.94**	

Initial Cleanup Objectives - RBCA Procedure - Protection of Ground Water

This report presents the initial cleanup objectives (CUO) for the constituents at the site as determined by the ASTM Risk-based Corrective Action (RBCA) procedure to protect ground waters. If the Mixture Rule is applicable these initial Cleanup Objectives may be modified according to the procedures set forth in 35 IAC 740.805. Soil objectives are in mg/kg; ground water objectives are in mg/L.

Constituent	Class I				Class II			
	CUO (Soil	Comments	CUO (GW)	Comments	CUO (Soil)	Comments	CUO (GW)	Comments
Dichloroethylene, cis-1,2-	1146.068		3500.000		1146.068		3500.000	
Dichloroethylene, trans-1,2-	2428.000		6300.000		2428.000		6300.000	
Dichloroethylene, 1,1-	959.470		2250.000		959.470		2250.000	
Tetrachloroethylene	140.932		200.000		140.932		200.000	
Trichloroethylene	799.784		1100.000		799.784		1100.000	
Vinyl chloride	846.785		2760.000		846.785		2760.000	
Total CUO Concentrations	**6,321.04**				**6,321.04**			

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/524-3300

May 15, 2000

CERTIFIED MAIL
P 344 306 086

Mr. Stephen S. Penley
Lindberg Heat Treating Company
1975 North Ruby Street
Melrose Park, Illinois 60160

Re: 0311860011 -- Cook County
Lindberg Heat Treating
ILD005071808
Log No. C-544-M-19
Date Received: October 27, 1999
SRP/Technical

Dear Mr. Penley:

This letter is in response to two reports prepared and submitted October 26, 1999 by Mr. David A. Carlson of Mabbett & Associates, Inc. (M&A) on behalf of Lindberg Heat Treating Company Inc. (LHT). These reports are entitled: Remedial Objectives Report for Heat Treating Building and Remedial Objectives Report for Gantry and Salt Building Area. The reports provided a physical and hydrogeologic site characterization, a summary of subsurface investigation activities to date, a description of the extent of releases, and finally a proposal for site-specific remedial objectives for the Heat Treating Building (HTB) and Gantry Building/Salt Building (GB/SB) at the LHT facility. Remedial activities for contamination in the vicinity of these two buildings is being carried out under Illinois EPA's Site Remediation Program. A site layout map showing the location of these buildings is attached.

In the April 27, 1999 letter (Log No. C-544-M-18), Illinois EPA determined that investigative efforts documented in focused site investigation reports for the areas of concern had been properly conducted and that the next course of action for this project was development of a Remedial Objectives Report. However, Condition 5 of that letter pointed out that LHT's proposal in the focused site investigation reports to exclude the groundwater exposure route pursuant to 35 Ill. Adm. Code 742.320 could not be approved as adequate documentation regarding local groundwater protection ordinances had not been provided.

There are four areas of contamination of concern (shown on the attached drawing) beneath the HTB and GB/SB characterized as follows:

1. In the HTB in the vicinity of wells M&A 104, 110, 111, and 113 where dense non-aqueous phase liquids (DNAPLs) primarily containing trichloroethylene (TCE), are present in soil and groundwater;

2. In the HTB in the vicinity of wells MCA-2, M&A 301 and M-114 where light non-aqueous phase liquid (LNAPLs) comprised of petroleum and non-chlorinated VOCs are present in soil and groundwater;

3. In the GB/SB, an area outside the east door of the GB with volatile organic compounds (VOCs) present in soil and groundwater; and

4. In the GB/SB in an area south of the East Gantry Pit in the east portion of the GB with cyanide present in groundwater.

The subject submittals were handled as a request to modify the approved workplans for the HTB and GB/SB at the LHT facility and are hereby approved subject to the following conditions and modifications and also those set forth in ATTACHMENT A - Heat Treating Building, and ATTACHMENT B - Gantry Salt Building to this letter.

1. All activities implemented to address contamination identified in this letter must be carried out in accordance with 35 Ill. Code 740.

2. To ensure the requirements of 35 Ill. Adm. Code 740.410 are met, all future submittals to Illinois EPA must contain a completed DRM-2 form.

3. The Remedial Action Plan due to the Illinois EPA by July 17, 2000, should be developed in accordance with 35 Ill. Adm. Code 740.445 and the TACO review document previous sent to LHT.

Within 35 days of the date of mailing of the Illinois EPA's final decision, the applicant may petition for a hearing before the Illinois Pollution Control Board to contest the decision of the Illinois EPA, however, the 35 day period for petitioning for a hearing may be extended for a period of time not to exceed ninety days by written notice provided to the Board form the applicant and the Illinois EPA within the 35-day initial appeal period.

Work required by this letter, your modification request or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work

that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Should you have any questions regarding this letter, please contact Karen Nachtwey at (217) 524-3273. For questions regarding groundwater requirements please contact Paula Stine at (217) 524-3861.

Sincerely,

Joyce L. Munie, P.E.
Manager, Permit Section
Bureau of Land

JLM:JKM:KEN:bjh\2414S.WPD

Attachment 1 - Heat Treating Building Conditions
Attachment 2 - Gantry and Salt Building Conditions
Attachment 3 - TACO Equation R26 Calculation for the HTB Shallow GROs
Attachment 4 - TACO Equation R26 Calculation for the HTB Intermediate GROs
Attachment 5 - TACO Equation R26 Calculations for the GSB GROs
Attachment 6 - Heat Treating Building Soil Concentration Contour Map
Attachment 7 - Gantry Building and Salt Building Soil Concentration Contour Map
Attachment 8 - Facility Site Lay-out

cc: Mabbett & Associates, Inc. - David A. Carlson, LEP, LSP

ATTACHMENT 1

HEAT TREATING BUILDING CONDITIONS

1. 35 Ill. Adm. Code 742.805(a)(3) and 35 Ill. Adm. Code 742.810(a) specifically requires the use of Equation R26 in calculating Tier 2 Groundwater Remediation Objectives (GROs), yet it appears that the facility used TACO Equation R15 multiplied by the Source concentration (C_{source}) as a variation to TACO Equation R26 in their Tier 2 Groundwater Evaluation. However, the Illinois EPA conducted an independent Tier 2 Groundwater Evaluation. Attachment 3 provides the calculations for the shallow GROs and Attachment 4 for the intermediate GROs.

2. The Tier 2 GROs for the Heat Treating Building are as follows:

	Shallow	Intermediate
1,1-dichloroethylene	0.120 mg/L	0.190 mg/L
cis-1,2-dichloroethylene	480.0 mg/L	240.0 mg/L
trans-1,2-dichloroethylene	0.800 mg/L	0.110 mg/L
tetrachloroethene	68.00 mg/L	200.0 mg/L
trichloroethylene	1100. mg/L	1100. mg/L
vinyl chloride	7.200 mg/L	0.160 mg/L

These remediation objectives are based upon the highest detected concentrations of the above listed parameters. The facility proposed to utilize the maximum calculated source concentrations for each of the above listed parameters, however, the purpose and intent of the TACO regulations is to develop risk-based remediation objectives based on site specific data. The maximum calculated source concentration values were based upon a hypothetical situation and a mathematical equation, but have not been detected at the facility and therefore cannot be approved.

3. Approval of the above Tier 2 GROs is contingent upon the implementation of institutional controls at the facility. Pursuant to 35 Ill. Adm. Code 742.1000 (Subpart J), institutional controls must be used when the subject property is determined to be Industrial/Commercial and when the point of human exposure is located at a place other then the source. The Melrose Park Ordinance No. 321 may be used as an environmental institutional control under 35 Ill. Adm. Code 742 provided a certified copy is submitted to the Illinois EPA and the city has entered a Memorandum of Understanding (MOU) with the State. However, a copy of the Melrose Park ordinance was not submitted with a certification from an official of Melrose Park as required by 35 Ill. Adm. Code 742.1015(b)(1). Requirements of 35 Ill. Adm. Code 742.1015(I) shall be met prior to the ordinance being used as an environmental institutional control. Use of any ordinance must be approved by the Illinois EPA's Division of Legal Counsel (DLC).

   Until such time as the use of an institutional control is approved by the Illinois EPA, the groundwater clean-up objectives are the Class II Groundwater Quality Standards (to a

depth of 34 feet), as listed in 35 Ill. Adm. Code 620.420.

4. The Illinois EPA requires the following be met regarding the groundwater contamination at the Heat Treating Building:

   a. Prior to the use of Tier 2 GROs in Condition 2 above, source removal of dense nonaqueous phase liquid from groundwater at M&A-113 and light nonaqueous phase liquid at M&A-114 shall continue until all product is removed to the extent practicable; and

   b. Semi-annual sampling, analysis and reporting of groundwater conditions at MCA-5, M&A-103, M&A-104, M&A-105, M&A-111, M&A-113, M&A-114, M&A-115, M&A-119, M&A-121, M&A-122 and M&A-126 should continue until final remediation of the unit has been achieved. In addition, the following shallow wells should be included in this monitoring and reporting program due to the presence of vinyl chloride in excess of 35 Ill. Adm. Code 742 Tier 1 levels: M&A-112, M&A-116, M&A-120, MCA-2 and M&A-107.

   c. Any sampling results that exceed the GROs for the parameters listed above in Condition 2, must be remediated.

5. Samples must be collected in accordance with the procedures listed in the document, Test Methods For Evaluating Solid Waste Physical/Chemical Methods (SW-846) Third Edition, dated December 1996, pursuant to 35 Ill. Adm. Code 620.510(b).

6. The information required by Condition 3 above should be submitted to the Illinois EPA for our review within forty-five (45) days of the date of this letter.

7. Pursuant to 35 Ill. Adm. Code 740.450, the facility must submit a Remediation Action Plan (RAP), which outlines the proposed remedial action to be taken at the site to achieve the conditionally approved TACO GROs. The RAP must also include an evaluation of the effectiveness of the proposed remedial action, as well as an evaluation of the ability for the facility to achieve the GROs.

8. The information required by Condition 7 above shall be submitted to the Illinois EPA for our review by July 17, 2000.

9. The Illinois EPA has determined that the soil ROs proposed for VOCs at the

HTB are acceptable provided: (1) an engineered barrier and associated institutional control are established over soil contamination in the Heat Treating Building extending to the 0 mg/kg contour line as shown in Attachment 6 - Heat Treating Building TCE Soil Concentration Contour Map; and (2) an institutional control is established to restrict groundwater usage on the LHT property.

ATTACHMENT 2
GANTRY AND SALT BUILDING

1. 35 Ill. Adm. Code 742.805(a)(3) and 35 Ill. Adm. Code 742.810(a) specifically require the use of Equation R26 in calculating Tier 2 Groundwater Remediation Objectives (GROs), yet it appears that the facility used TACO Equation R15 multiplied by the Source Concentration (C_{source}) as a variation to TACO Equation R26 in their Tier 2 Groundwater Evaluation. However, the Illinois EPA has conducted an independent Tier 2 Groundwater Evaluation provided in Attachment 5 to this letter.

2. The Tier 2 GROs for the Gantry and Salt Buildings are as follows:

Tetrachloroethene	45.00 mg/L	Chloroform	.0123 mg/L
Trichloroethylene	0.039 mg/L	Vinyl Chloride	0.880 mg/L
Cis-1,2-dichloroethene	2.500 mg/L	Trichloroethene*	0.029 mg/L

*Deep aquifer remedial objectives. All others are shallow remedial objectives.

These remediation objectives are based upon the highest detected concentrations of the above listed parameters. The facility proposed to utilize the maximum calculated source concentrations for each of the above listed parameters, however, the purpose and intent of the TACO regulations is to develop risk-based remediation objectives based on site specific data. The maximum calculated source concentration values were based upon a hypothetical situation and a mathematical equation, but have not been detected at the facility and therefore cannot be approved.

3. In addition to Condition 1 above, the Illinois EPA conducted an independent Tier 2 Groundwater Evaluation for Cyanide. The Illinois EPA has determined the Tier 2 GRO to be 0.685 mg/L. Any sampling results that exceed the GRO for Cyanide must be remediated.

4. Samples must be collected in accordance with the procedures listed in the document, Test Methods For Evaluating Solid Waste Physical/Chemical Methods (SW-846) Third Edition, dated December 1996, pursuant to 35 Ill. Adm. Code 620.510(b).

5. Semi-annual groundwater monitoring shall continue at the Gantry and Salt Buildings in accordance with the requirements of previous Illinois EPA approved plans/specifications and 35 Ill. Adm. Code 740.

6. Approval of the above Tier 2 GROs is contingent upon the implementation of institutional controls at the facility. Pursuant to 35 Ill. Adm. Code 742.1000 (Subpart J), institutional controls must be used when the subject property is determined to be Industrial/Commercial and when the point of human exposure is located at a place other than the source. The Melrose Park Ordinance No. 321 may be used as an environmental

institutional control under 35 Ill. Adm. Code 742 provided a certified copy is submitted to the Illinois EPA and the city has entered into a Memorandum of Understanding (MOU) with the State. However, a copy of the Melrose Park ordinance was not submitted with a certification from an official of Melrose Park as required by 35 Ill. Adm. Code 742.1015(b)(1). Requirements of 35 Ill. Adm. Code 742.1015(I) shall be met prior to the ordinance being used as an environmental institutional control. Use of any ordinance must be approved by the Illinois EPA's Division of Legal Counsel (DLC).

Until such time as the use of an institutional control is approved by the Illinois EPA, the groundwater clean-up objectives are the Class II Groundwater Quality Standards (to a depth of 34 feet), as listed in 35 Ill. Adm. Code Part 620.420.

7. Pursuant to 35 Ill. Adm. Code 740.450, the facility must submit a Remediation Action Plan (RAP), which outlines the proposed remedial action to be taken at the site to achieve the conditionally approved TACO GROs. The RAP must also include an evaluation of the effectiveness of the proposed remedial action, as well as an evaluation of the ability for the facility to achieve the GROs.

8. The Illinois EPA has determined that the ROs calculated for VOCs in soil are acceptable for the GB/SB provided: (1) an engineered barrier and associated institutional control are established over soil contamination in the GB/SB and extends to the 0 mg/kg contour line as shown in Attachment 7 - GB/SB TCE Soil Concentration Contour Map; and (2) an institutional control is established to restrict groundwater usage on the LHT property. over a portion of this area. The Remediation Action Plan must address establishment of such an engineered barrier.

9. The information required by Condition 7 and 8 above should be submitted to the Illinois EPA for our review by July 17, 2000.

ATTACHMENT 3
HEAT TREATING BUILDING
TACO EQUATION R26 CALCULATIONS
SHALLOW GROs

Lindberg Heat Treating Building (shallow)

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	1,1-dichlororethylene	
Compliance Concentration at Distance X from Source (Cx)	0.035	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (l)	0.0053	day-1
Source Width (Sw)	2440	cm
Source Depth (Sd)	180	cm
Hydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
Porosity (n)	0.4	
Darcy Velocity (U)	1.50E-03	cm/day
Concentration (Cs) Which Can be Left in Groundwater at the Source Area:	7.82E+198	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	1,1-dichlororethylene	
Concentration at Source (Cs)	0.12	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (l)	0.0053	day-1
Source Width (Sw)	2440	cm
Source Depth (Sd)	180	cm
Hydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
Porosity (n)	0.4	
Darcy Velocity (U)	1.50E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	5.37E-202	mg/L
	0.000000	mg/L

Lindberg Heat Treating Building (shallow)

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	cis-1,2-dichloroethylene	
Compliance Concentration at Distance X from Source (Cx)	0.2	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (l)	0.00024	day-1
Source Width (Sw)	2440	cm
Source Depth (Sd)	180	cm
Hydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
Porosity (n)	0.4	
Darcy Velocity (U)	1.50E-03	cm/day
Concentration (Cs) Which Can be Left in Groundwater at the Source Area:	9.43E+40	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	cis-1,2-dichloroethylene	
Concentration at Source (Cs)	480	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (l)	0.00024	day-1
Source Width (Sw)	2440	cm
Source Depth (Sd)	180	cm
Hydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
Porosity (n)	0.4	
Darcy Velocity (U)	1.50E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	1.02E-39	mg/L
	0.000000	mg/L

Lindberg Heat Treating Building (shallow)

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	trans-1,2-dichloroethylene	
Compliance Concentration at Distance X from Source (Cx)	0.5	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (I)	0.00024	day-1
Source Width (Sw)	2440	cm
Source Depth (Sd)	180	cm
Hydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
Porosity (n)	0.4	
Darcy Velocity (U)	1.50E-03	cm/day
Concentration (Cs) Which Can be Left in Groundwater at the Source Area:	2.36E+41	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	trans-1,2-dichloroethylene	
Concentration at Source (Cs)	0.8	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (I)	0.00024	day-1
Source Width (Sw)	2440	cm
Source Depth (Sd)	180	cm
Hydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
Porosity (n)	0.4	
Darcy Velocity (U)	1.50E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	1.70E-42	mg/L
	0.000000	mg/L

Lindberg Heat Treating Building (shallow)

d Approach to Cleanup Objectives 22-Feb-2000

NTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	tetrachloroethylene	
ompliance Concentration at Distance X from Source (Cx)	0.025	mg/L
istance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
z	30.50	cm
Biodegradation Coefficient (l)	0.00096	day-1
Source Width (Sw)	2440	cm
ource Depth (Sd)	180	cm
ydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
orosity (n)	0.4	
arcy Velocity (U)	1.50E-03	cm/day
oncentration (Cs) Which Can be Left in Groundwater at the Source Area:	8.90E+82	mg/L
	**********	mg/L

ered Approach to Cleanup Objectives 22-Feb-2000

ER THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	tetrachloroethylene	
oncentration at Source (Cs)	68	mg/L
istance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
z	30.50	cm
odegradation Coefficient (l)	0.00096	day-1
Source Width (Sw)	2440	cm
ource Depth (Sd)	180	cm
ydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
orosity (n)	0.4	
arcy Velocity (U)	1.50E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	1.91E-83	mg/L
	0.000000	mg/L

.indberg Heat Treating Building (shallow)

Tiered Approach to Cleanup Objectives 24-Feb-2000

ENTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	trichloroethylene	
Compliance Concentration at Distance X from Source (Cx)	0.025	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (I)	0.00042	day-1
Source Width (Sw)	2440	cm
Source Depth (Sd)	180	cm
Hydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
Porosity (n)	0.4	
Darcy Velocity (U)	1.50E-03	cm/day
Concentration (Cs) Which Can be Left in Groundwater at the Source Area:	8.15E+53	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 24-Feb-2000

ENTER THE CHEMICAL NAME, AND ALL VALUES IN BLUE. Solubility = 1100 mg/L

Chemical Name	trichloroethylene	
Concentration at Source (Cs)	12000	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (I)	0.00042	day-1
Source Width (Sw)	2440	cm
Source Depth (Sd)	180	cm
Hydraulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
Porosity (n)	0.4	
Darcy Velocity (U)	1.50E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	3.68E-52	mg/L
	0.000000	mg/L

Lindberg Heat Treating Building (shallow)

d Approach to Cleanup Objectives 22-Feb-2000

NTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	vinyl chloride	
mpliance Concentration at Distance X from Source (Cx)	0.01	mg/L
stance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
	30.50	cm
odegradation Coefficient (l)	0.00024	day-1
Source Width (Sw)	2440	cm
urce Depth (Sd)	180	cm
draulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
rosity (n)	0.4	
rcy Velocity (U)	1.50E-03	cm/day
ncentration (Cs) Which Can be Left in Groundwater at the Source Area:	4.72E+39	mg/L
	**********	mg/L

ered Approach to Cleanup Objectives 22-Feb-2000

ER THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	vinyl chloride	
ncentration at Source (Cs)	7.2	mg/L
stance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
	30.50	cm
odegradation Coefficient (l)	0.00024	day-1
Source Width (Sw)	2440	cm
urce Depth (Sd)	180	cm
draulic Conductivity (K)	0.02	cm/day
Hydraulic Gradient (i)	0.03	cm/cm
rosity (n)	0.4	
rcy Velocity (U)	1.50E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	1.53E-41	mg/L
	0.000000	mg/L

ATTACHMENT 4
HEAT TREATING BUILDING
TACO EQUATION R26 CALCULATIONS
INTERMEDIATE GROs

ndberg Heat Treating Building (intermediate)

T Approach to Cleanup Objectives 22-Feb-2000

NTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	1,1-dichlororethylene	
ompliance Concentration at Distance X from Source (Cx)	0.035	mg/L
istance to Receptor (X)	6100	cm
Ax	610.00	cm
y	203.33	cm
z	30.50	cm
Biodegradation Coefficient (l)	0.0053	day-1
ource Width (Sw)	2042	cm
ource Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
rosity (n)	0.42	
arcy Velocity (U)	7.71E-03	cm/day
oncentration (Cs) Which Can be Left in Groundwater at the Source Area:	3.22E+86	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 22-Feb-2000

ER THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	1,1-dichlororethylene	
oncentration at Source (Cs)	0.19	mg/L
stance to Receptor (X)	6100	cm
Ax	610.00	cm
y	203.33	cm
z	30.50	cm
Biodegradation Coefficient (l)	0.0053	day-1
Source Width (Sw)	2042	cm
ource Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
rosity (n)	0.42	
arcy Velocity (U)	7.71E-03	cm/day
oncentration (Cx) in Groundwater at the Downgradient Compliance Point:	2.06E-89	mg/L
	0.000000	mg/L

Lindberg Heat Treating Building (intermediate)

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	cis-1,2-dichloroethylene	
Compliance Concentration at Distance X from Source (Cx)	0.2	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (l)	0.00024	day-1
Source Width (Sw)	2042	cm
Source Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
Porosity (n)	0.42	
Darcy Velocity (U)	7.71E-03	cm/day
Concentration (Cs) Which Can be Left in Groundwater at the Source Area:	2.37E+17	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	cis-1,2-dichloroethylene	
Concentration at Source (Cs)	240	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (l)	0.00024	day-1
Source Width (Sw)	2042	cm
Source Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
Porosity (n)	0.42	
Darcy Velocity (U)	7.71E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	2.03E-16	mg/L
	0.000000	mg/L

ndberg Heat Treating Building (intermediate)

T Approach to Cleanup Objectives 22-Feb-2000

NTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	trans-1,2-dichloroethylene	
mpliance Concentration at Distance X from Source (Cx)	0.5	mg/L
stance to Receptor (X)	6100	cm
Ax	610.00	cm
	203.33	cm
	30.50	cm
Biodegradation Coefficient (l)	0.00024	day-1
urce Width (Sw)	2042	cm
urce Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
rosity (n)	0.42	
Darcy Velocity (U)	7.71E-03	cm/day
ncentration (Cs) Which Can be Left in Groundwater at the Source Area:	5.92E+17	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 22-Feb-2000

R THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	trans-1,2-dichloroethylene	
ncentration at Source (Cs)	0.11	mg/L
stance to Receptor (X)	6100	cm
Ax	610.00	cm
	203.33	cm
	30.50	cm
Biodegradation Coefficient (l)	0.00024	day-1
Source Width (Sw)	2042	cm
urce Depth (Sd)	100	cm
ydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
rosity (n)	0.42	
rcy Velocity (U)	7.71E-03	cm/day
ncentration (Cx) in Groundwater at the Downgradient Compliance Point:	9.29E-20	mg/L
	0.000000	mg/L

Lindberg Heat Treating Building (intermediate)

Tiered Approach to Cleanup Objectives 24-Feb-2000

ENTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	tetrachloroethylene	
Compliance Concentration at Distance X from Source (Cx)	0.025	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (l)	0.00096	day-1
Source Width (Sw)	2042	cm
Source Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
Porosity (n)	0.42	
Darcy Velocity (U)	7.71E-03	cm/day
Concentration (Cs) Which Can be Left in Groundwater at the Source Area:	2.13E+35	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 24-Feb-2000

ENTER THE CHEMICAL NAME, AND ALL VALUES IN BLUE. Solubility = 200 mg/L

Chemical Name	tetrachloroethylene	
Concentration at Source (Cs)	9400	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (l)	0.00096	day-1
Source Width (Sw)	2042	cm
Source Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
Porosity (n)	0.42	
Darcy Velocity (U)	7.71E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	1.10E-33	mg/L
	0.000000	mg/L

g Heat Treating Building (intermediate)

ired Approach to Cleanup Objectives — 24-Feb-2000

ITER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

hemical Name	trichloroethylene	
ompliance Concentration at Distance X from Source (Cx)	0.025	mg/L
stance to Receptor (X)	6100	cm
	610.00	cm
y	203.33	cm
	30.50	cm
odegradation Coefficient (l)	0.00042	day-1
ource Width (Sw)	2042	cm
urce Depth (Sd)	100	cm
draulic Conductivity (K)	0.36	cm/day
ydraulic Gradient (i)	0.009	cm/cm
orosity (n)	0.42	
rcy Velocity (U)	7.71E-03	cm/day
oncentration (Cs) Which Can be Left in Groundwater at the Source Area:	3.55E+22	mg/L
	**********	mg/L

1 Approach to Cleanup Objectives — 24-Feb-2000

NTER THE CHEMICAL NAME, AND ALL VALUES IN BLUE. — Solubility = 1100 mg/L

emical Name	trichloroethylene	
oncentration at Source (Cs)	380000	mg/L
stance to Receptor (X)	6100	cm
	610.00	cm
y	203.33	cm
	30.50	cm
odegradation Coefficient (l)	0.00042	day-1
ource Width (Sw)	2042	cm
ource Depth (Sd)	100	cm
draulic Conductivity (K)	0.36	cm/day
ydraulic Gradient (i)	0.009	cm/cm
orosity (n)	0.42	
rcy Velocity (U)	7.71E-03	cm/day
oncentration (Cx) in Groundwater at the Downgradient Compliance Point:	2.68E-19	mg/L
	0.000000	mg/L

Lindberg Heat Treating Building (intermediate)

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, SITE INFO AND ALL VALUES IN BLUE.

Chemical Name	vinyl chloride	
Compliance Concentration at Distance X from Source (Cx)	0.01	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (I)	0.00024	day-1
Source Width (Sw)	2042	cm
Source Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
Porosity (n)	0.42	
Darcy Velocity (U)	7.71E-03	cm/day
Concentration (Cs) Which Can be Left in Groundwater at the Source Area:	1.18E+16	mg/L
	**********	mg/L

Tiered Approach to Cleanup Objectives 22-Feb-2000

ENTER THE CHEMICAL NAME, AND ALL VALUES IN BLUE.

Chemical Name	vinyl chloride	
Concentration at Source (Cs)	0.16	mg/L
Distance to Receptor (X)	6100	cm
Ax	610.00	cm
Ay	203.33	cm
Az	30.50	cm
Biodegradation Coefficient (I)	0.00024	day-1
Source Width (Sw)	2042	cm
Source Depth (Sd)	100	cm
Hydraulic Conductivity (K)	0.36	cm/day
Hydraulic Gradient (i)	0.009	cm/cm
Porosity (n)	0.42	
Darcy Velocity (U)	7.71E-03	cm/day
Concentration (Cx) in Groundwater at the Downgradient Compliance Point:	1.35E-19	mg/L
	0.000000	mg/L

APPENDIX B

COPIES OF MELROSE PARK ORDINANCES

NOs. 321 AND 509

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

CERTIFICATION OF ORDINANCE #321

I, Barbara Jasinski, the undersigned, do hereby certify that I am duly elected and qualified Village Clerk of the Village of Melrose Park, County of Cook, State of Illinois (the "Village"), and as such official I am the keeper of the records and files of the Village and of the President and Board of Trustees thereof (the "Village Board").

I do further certify that Ordinance #321was adopted by the President and Board of Trustees of the Village of Melrose Park at a public meeting of the Village Board held November 24, 1997, at the hour of 7:30 p.m., in the First Floor meeting Room of the Police Department, One North Broadway Avenue (Broadway & Main Street), Melrose Park, Illinois 60160.

IN WITNESS WHEREOF, I hereunto affix my official signature and the seal of the Village, this 15th day of June 2000.

Barbara Jasinski

Barbara Jasinski, Village Clerk

VILLAGE OF MELROSE PARK
COOK COUNTY, ILLINOIS

ORDINANCE NO. 321

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD, FOR THE VILLAGE OF MELROSE PARK, COUNTY OF COOK, STATE OF ILLINOIS.

ADOPTED BY THE
PRESIDENT AND BOARD OF TRUSTEES
OF THE
VILLAGE OF MELROSE PARK

THIS 24TH DAY OF NOVEMBER, 1997

RONALD M. SERPICO, Village President
BARBARA JASINSKI, Village Clerk

Board Of Trustees

CARLOTTA "LOLLIE" ARIOLA
JOHN S. CONTEDUCA
CATHLEEN ITALIA
FRED LAMB
RUBEN LOMELI
JOSEPH McMILLAN

Published by authority of the
President and Board of Trustees
Of the Village of Melrose Park,
Cook County, Illinois on
This 24TH day of November, 1997.

ORDINANCE NO. 321

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD, FOR THE VILLAGE OF MELROSE PARK, COUNTY OF COOK, STATE OF ILLINOIS .

* * * * *

ORDINANCE NO. 321

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD, FOR THE VILLAGE OF MELROSE PARK, COUNTY OF COOK, STATE OF ILLINOIS.

* * * * *

WHEREAS, the Village of Melrose Park, Cook County, State of Illinois (the "Village") is a duly organized and existing Village created under the provisions of the laws of the State of Illinois, and is now operating under the provisions of the Illinois Municipal Code, and all laws amendatory thereof and supplementary thereto with full powers to enact ordinances for the benefit of the residents of the Village.

WHEREAS, The President and the Board of Trustees (the "Corporate Authorities") of the Village of Melrose Park, County of Cook, State of Illinois, have determined that it is advisable, necessary and in the best interest of the Village to prohibit the use of groundwater as a potable water supply by the installation or use of potable water supply wells or by any other method.

NOW THEREFORE, BE IT ORDAINED by the Village President and the Board of Trustees of the Village of Melrose Park, Cook County Illinois:

ARTICLE I.
IN GENERAL

Section 01. Incorporation Clause.

The parties agree that the above information, contained in the preamble, is hereby incorporated into this ordinance by reference.

Section 02. Purpose.

The purpose of this ordinance is to prohibit the use of groundwater as a potable water supply by the installation or use of potable water supply wells or by any other method.

Section 03. Invocation of authority.

This ordinance is enacted pursuant to the authority granted to this Village by Constitution of the State of Illinois and the Illinois Compiled Statutes.

Section 04. State Law Adopted.

All applicable provisions of the Illinois Compiled Statutes, including the Illinois Municipal Code, as may be amended from time to time, relating to the purposes of this ordinance are hereby incorporated herein by reference.

Sections 05-09. Reserved.

ARTICLE II.
GROUND WATER AS A POTABLE WATER SUPPLY

Section 10. Use of Groundwater as a Potable Water Supply Prohibited.

The use or attempt to use as a potable water supply groundwater from within the corporate limits of the Village of Melrose Park by the installation or drilling of wells or by any other method is hereby prohibited.

Section 11. Exception(s).

After a determination by the Village President, the Village of Melrose Park may use as a potable water supply groundwater from within the corporate limits of the Village of Melrose Park by the installation or drilling of wells or by any other method. This exception only applies for uses that are determined, by the Village President, to be in the best interest of the citizens of the Village of Melrose Park.

Section 12. Penalties.

Any person violating the provisions of this ordinance shall be subject to a fine of up to $ 1,000.00, for each violation.

Section 13. Definitions.

"Person" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, or any other legal entity, or their legal representatives, agents or assigns.

"Potable water" is any water used for human or domestic consumption, including, but not limited to, water used for drinking, bathing, washing dishes, or preparing foods.

ARTICLE III.
SAVINGS CLAUSES, PUBLICATION, EFFECTIVE DATE

Section 14. Headings.

The headings for the articles, sections, paragraphs and sub-paragraphs of this ordinance are inserted solely for the convenience of reference and form no substantive part of this ordinance nor should they be used in any interpretation or construction of any substantive provisions of this ordinance.

Section 15. Severability.

The provisions of this ordinance are hereby declared to be severable and should any provision, clause, sentence, paragraph, sub-paragraph, section, or part of this ordinance be determined to be in conflict with any law, statute or regulation by a court of competent jurisdiction, said provision shall be excluded and deemed inoperative,

unenforceable, and as though not provided for herein, and all other provisions shall remain unaffected, unimpaired, valid and in full force and effect. It is hereby declared to be the legislative intent of the Board of Trustees that this ordinance would have been adopted had not such unconstitutional or invalid provision, clause, sentence, paragraph, sub-paragraph, section, or part thereof had not been included.

Section 16. Superseder.

All code provisions, ordinances, resolutions and orders, or parts thereof, in conflict herewith, are to the extent of such conflict hereby superseded.

Section 17. Publication.

A full, true and complete copy of this ordinance shall be published in pamphlet form or in a newspaper published and of general circulation within the Village as provided by the Illinois Municipal Code, as amended.

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

Section 18. Effective date

This ordinance shall be in full force and effect upon passage, approval and ten (10) days after the publication hereof, as provided by law.

On The Individual Poll And Voice Vote Of The Board Of Trustees:

AYE VOTES:	5
NAY VOTES:	0
ABSTAIN:	0
ABSENT:	1

SO PASSED, ADOPTED, APPROVED AND ENACTED IN AND AT THE VILLAGE OF MELROSE PARK, COUNTY OF COOK, STATE OF ILLINOIS, THIS 24th DAY OF NOVEMBER, 1997 A.D.

APPROVED:

RONALD M. SERPICO,
VILLAGE PRESIDENT

ATTEST:

BARBARA JASINSKI,
VILLAGE CLERK

Recorded in the Municipal Records: November 24, 1997

Published in pamphlet form on November 25, 1997

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

CERTIFICATION OF ORDINANCE #509

I, Barbara Jasinski, the undersigned, do hereby certify that I am duly elected and qualified Village Clerk of the Village of Melrose Park, County of Cook, State of Illinois (the "Village"), and as such official I am the keeper of the records and files of the Village and of the President and Board of Trustees thereof (the "Village Board").

I do further certify that Ordinance #509 was adopted by the President and Board of Trustees of the Village of Melrose Park at a public meeting of the Village Board held April 24, 2000, at the hour of 7:30 p.m., in the First Floor meeting Room of the Police Department, One North Broadway Avenue (Broadway & Main Street), Melrose Park, Illinois 60160.

IN WITNESS WHEREOF, I hereunto affix my official signature and the seal of the Village, this 15th day of June 2000.

Barbara Jasinski

Barbara Jasinski, Village Clerk

VILLAGE OF MELROSE PARK
COOK COUNTY, ILLINOIS

ORDINANCE NO. 509

AN ORDINANCE AUTHORIZING AND APPROVING THE ADOPTION OF A MEMORANDUM OF UNDERSTANDING BETWEEN THE VILLAGE OF MELROSE PARK AND THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY IN CONNECTION WITH ESTABLISHING INSTITUTIONAL CONTROLS FOR THE USE OF GROUND WATER AS A POTABLE WATER SUPPLY IN THE VILLAGE OF MELROSE PARK, COUNTY OF COOK, STATE OF ILLINOIS.

ADOPTED BY THE
PRESIDENT AND BOARD OF TRUSTEES
OF THE
VILLAGE OF MELROSE PARK

THIS 24TH DAY OF APRIL, 2000

RONALD M. SERPICO, Village President
BARBARA JASINSKI, Village Clerk

**Published by authority of the
President and Board of Trustees
Of the Village of Melrose Park,
Cook County, Illinois on
This 25th day of April, 2000.**

ORDINANCE NO. 509

AN ORDINANCE AUTHORIZING AND APPROVING THE ADOPTION OF A MEMORANDUM OF UNDERSTANDING BETWEEN THE VILLAGE OF MELROSE PARK AND THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY IN CONNECTION WITH ESTABLISHING INSTITUTIONAL CONTROLS FOR THE USE OF GROUND WATER AS A POTABLE WATER SUPPLY IN THE VILLAGE OF MELROSE PARK, COUNTY OF COOK, STATE OF ILLINOIS .

* * * * *

WHEREAS, the Village of Melrose Park, Cook County, State of Illinois ("the Village") is a duly organized and existing Village created under the provisions of the laws of the State of Illinois, and is now operating under the provisions of the Illinois Municipal Code, and all laws amendatory thereof and supplementary thereto with full powers to enact ordinances for the benefit of the residents of the Village; and

WHEREAS, the Village President, the Honorable Ronald M. Serpico, the Village Clerk, the Honorable Barbara Jasinski, having taken office on May 1, 1997 and the Village Board of Trustees, the Honorable Carlotta "Lollie" Ariola, John S. Conteduca, Cathleen Cossident Italia, Fred Lamb, and Ruben Lomeli, having taken office on May 1, 1999, and Trustee Thomas Klein, having been appointed and sworn into office on March 27, 2000, respectively, constitute the duly elected, appointed, qualified and acting officials of the Village; and

WHEREAS, at the President and Board of Trustees Meeting of November 24, 1997, the Corporate Authorities of the Village of Melrose Park adopted Ordinance No. 321, entitled "An Ordinance Prohibiting the Use of Groundwater as a Potable Water Supply by the Installation or Use of Potable Water Supply Wells or by any other Method..."; and

WHEREAS, the effect of Ordinance No. 321 was to prohibit the use of groundwater as a potable water supply within the Village of Melrose Park, with the only exception being that the Village of Melrose Park may utilize groundwater as a potable water supply should certain emergency circumstances arise; and

WHEREAS, in order to ensure the long-term integrity of Ordinance No. 321 as an environmental institutional control and to minimize any risk to human health and the environment from contamination, the Village of Melrose Park desires to enter into a Memorandum of Understanding (hereinafter "MOU") with the Illinois Environmental Protection Agency (hereinafter "IEPA"); and

WHEREAS, pursuant to said MOU, the Village shall assume certain responsibilities, pursuant to 35 Ill.Adm. Code 742.1015(i), with respect to monitoring and siting public water supply wells, the specific responsibilities of the Village are more particularly described in said MOU, a copy of which is attached hereto as Exhibit A; and

WHEREAS, the President and the Board of Trustees (the "Corporate Authorities") of the Village of Melrose Park, County of Cook, State of Illinois, have determined that the adoption of the Memorandum of Understanding between the Village and the Illinois Environmental Protection Agency is necessary, advisable and in the best interest of the Village and its residents;

NOW THEREFORE, BE IT ORDAINED by the Village President and the Board of Trustees of the Village of Melrose Park, Cook County, Illinois:

ARTICLE I.
IN GENERAL

Section 01. Incorporation Clause.

The President and Board of Trustees of the Village (the "Village Board") hereby find that all of the recitals hereinbefore stated as contained in the preambles to this Ordinance are full, true and correct and does hereby, by reference, incorporate and make them part of the Ordinance as legislative findings.

Section 02. Purpose.

The purpose of this Ordinance is to authorize and approve the adoption and execution of a Memorandum of Understanding between the Village and the Illinois Environmental Protection Agency, regarding the use of Ordinance No. 321 as an environmental institutional control.

Section 03. Invocation of authority.

This ordinance is enacted pursuant to the authority granted to this Village by Constitution of the State of Illinois and the Illinois Compiled Statutes.

Section 04. State Law Adopted.

All applicable provisions of the Illinois Compiled Statutes, including the Illinois Municipal Code, as may be amended from time to time, relating to the purposes of this ordinance are hereby incorporated herein by reference.

Sections 05-09. Reserved.

ARTICLE II.
AUTHORIZATION OF MEMORANDUM OF UNDERSTANDING

Section 10.00 Approval & Adoption of Memorandum of Understanding.

That the terms and provisions of the Memorandum of Understanding between the Village and the Illinois Environmental Protection Agency, regarding the use of Ordinance No. 321 as an environmental institutional control, are hereby approved in substantially the same form as attached hereto as Exhibit A, with such insertions, omissions and changes as shall be approved by the Village President and the Village Attorney or other members of the governing body of the Village executing the same.

Section 11.00 Authorization for Execution of MOU.

The Village President is hereby authorized and directed to execute, and the Village Clerk, if necessary, is hereby authorized and directed to attest and countersign the Memorandum of Understanding and any related exhibits attached thereto, whether or not such documents are attached to this Ordinance, and the Village Clerk, if necessary, is also authorized to affix the seal of the Village to such documents.

Section 12.00 Other Actions Authorized.

The Village Clerk is hereby authorized and directed to prepare and certify the documents referenced in Section III of the MOU and the officers, employees and/or agents of the Village shall take all action necessary or reasonably required to carry out, give effect to and consummate the transactions contemplated by this Ordinance and to take all action necessary in conformity therewith, including, without limitation, the execution and delivery of any documents required to be delivered in connection with this Ordinance and the MOU.

ARTICLE III.
SAVINGS CLAUSES, PUBLICATION, EFFECTIVE DATE

Section 13.00 Headings.

The headings for the articles, sections, paragraphs and sub-paragraphs of this Ordinance are inserted solely for the convenience of reference and form no substantive part of this Ordinance nor should they be used in any interpretation or construction of any substantive provisions of this Ordinance.

Section 14.00 Severability.

The provisions of this Ordinance are hereby declared to be severable and should any provision, clause, sentence, paragraph, sub-paragraph, section, or part of this Ordinance be determined to be in conflict with any law, statute or regulation by a court of competent jurisdiction, said provision shall be excluded and deemed inoperative, unenforceable, and as though not provided for herein, and all other provisions shall remain unaffected, unimpaired, valid and in full force and effect. It is hereby declared to be the legislative intent of the Board of Trustees that this Ordinance would have been adopted had not such unconstitutional or invalid provision, clause, sentence, paragraph, sub-paragraph, section, or part thereof had not been included.

Section 15.00 Superseder.

All code provisions, ordinances, resolutions and orders, or parts thereof, in conflict herewith, are to the extent of such conflict hereby superseded.

Section 16.00 Publication.

A full, true and complete copy of this Ordinance shall be published in pamphlet form or in a newspaper published and of general circulation within the Village as provided by the Illinois Municipal Code, as amended.

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

\ \ \

Section 17.00 Effective date

This Ordinance shall be in full force and effect upon passage and approval, as provided by the Illinois Municipal Code, as amended.

On The Individual Poll And Voice Vote Of The Board Of Trustees:

AYE VOTES: Trustee Ariola, Trustee Conteduca, Trustee Lamb, Trustee Lomeli, Trustee Klein

NAY VOTES:

ABSTAIN:

ABSENT: Trustee Italia

SO PASSED, ADOPTED, APPROVED AND ENACTED IN AND AT THE VILLAGE OF MELROSE PARK, COUNTY OF COOK, STATE OF ILLINOIS, THIS TWENTY-FOURTH DAY OF APRIL, 2000 A.D.

APPROVED:

RONALD M. SERPICO,
VILLAGE PRESIDENT

ATTEST:
Barbara Jasinski
Village Clerk

(SEAL)

Recorded in the Municipal Records: April 24, 2000

Published in pamphlet form: April 25, 2000

EXHIBIT A

MEMORANDUM OF UNDERSTANDING BETWEEN THE VILLAGE OF MELROSE PARK AND THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY REGARDING THE USE OF A LOCAL GROUNDWATER/WATER WELL ORDINANCE AS AN ENVIRONMENTAL INSTITUTIONAL CONTROL

I. PURPOSE AND INTENT

A. This Memorandum of Understanding (hereinafter "MOU") entered into by and between the Village of Melrose Park and the Illinois Environmental Protection Agency (hereinafter "Illinois EPA") is entered into for the purpose of satisfying the requirements of 35 Ill.Adm. Code 742.1015 for the use of groundwater or water well ordinances as environmental institutional controls. The Illinois EPA has reviewed the groundwater or water well ordinance of the Village of Melrose Park (a copy of which is attached hereto as "Exhibit A") and determined that the Ordinance prohibits the use of groundwater for potable purposes and the installation and use of new potable water supply wells by private entities but does not expressly prohibit those activities by the Village of Melrose Park itself. In such cases, 35 Ill.Adm. Code 742.1015(a) provides that the unit of local government may enter into an MOU with the Illinois EPA to allow the use of the Ordinance as an institutional control.

B. The intent of this Memorandum of Understanding is to specify the responsibilities that must be assumed by the Village of Melrose Park to satisfy the requirements for MOUs as set forth at 35 Ill.Adm. Code 742.1015(i).

II. DECLARATIONS AND ASSUMPTION OF RESPONSIBILITY

In order to ensure the long-term integrity of the groundwater/water well ordinance as an environmental institutional control and that risk to human health and the environment from contamination left in place in reliance on the groundwater/ water well ordinance is effectively managed; the Village of Melrose Park hereby assumes the following responsibilities pursuant to 35 Ill.Adm. Code 742.1015(i):

A. The Village of Melrose Park will notify the Illinois EPA Bureau of Land of any proposed ordinance changes, in connection with its well ordinance or this MOU, and notify the Illinois EPA Bureau of Land of any requests for variance that would impact or otherwise affect the intent of the Village's well ordinance and/or this MOU, at least thirty (30) days prior to the date the Village of Melrose Park is scheduled to take action on the proposed change or request (35 Ill.Adm. Code 742.1015(i)(4));

B. The Village of Melrose Park will maintain a registry of all sites within its Corporate Limits that have received "No Further Remediation" determinations from the Illinois EPA (35 Ill.Adm. Code 742.1015(i)(5)). In an effort to assist the Village of Melrose Park with maintaining said registry, the Illinois EPA shall forward to the Village of Melrose Park copies of any and all Illinois EPA letters, communications, or the like in which a "No Further Remediation" determination has been made by the Illinois EPA with respect to any real estate within the Corporate Limits of the Village of Melrose Park.

C. The Village of Melrose Park will review the registry of sites established under paragraph II. B prior to siting public potable water supply wells within the Corporate Limits of the Village of Melrose Park (35 Ill.Adm. Code 742.1015(i)(6)(A));

D. Prior to siting public potable water supply wells and/or using potable water from any such well, the Village of Melrose Park will determine whether the potential source of potable water has been or may be affected by contamination left in place at the sites tracked and reviewed under paragraphs II.B. and C (35 Ill.Adm. Code 742.1015(i)(6)(B)); and

E. The Village of Melrose Park will take action as necessary to ensure that the potential source of potable water is protected from contamination or treated before it is used as a potable water supply (35 Ill.Adm. Code 742.1015(i)(6)(C)).

NOTE: Notification under paragraphs II A and II B above or other communications concerning this MOU should be directed to:

If to the Illinois EPA:

Manager, Division of Remediation Management
Bureau of Land
Illinois Environmental Protection Agency
P.O. Box 19276
Springfield, Illinois 62794-9276

If to the Village of Melrose Park:

Village Attorney
Village of Melrose Park
1000 N. 25th Avenue
Melrose Park, Illinois 60160

III. SUPPORTING DOCUMENTATION

The following documentation is required by 35 Ill.Adm. Code 742.1015(i) and is attached to this MOU:

A. Attachment A: A copy of Village of Melrose Park Ordinance No. 321, entitled "An Ordinance Prohibiting the Use of Groundwater as a Potable Water Supply by the Installation or Use of Potable Water Supply Wells or by any Other Method, for the Village of Melrose Park, County of Cook, State of Illinois." A certificate of the Village Clerk is attached thereto certifying that said Ordinance, at the time of the adoption of this MOU, is a valid legislative enactment and is in full force and effect in the Village of Melrose Park. (35 Ill.Adm. Code 742.1015(i)(3));

B. Attachment B: Certificate of the Village Clerk certifying that said Ordinance No. 321 is applicable everywhere within the Corporate Limits of the Village of Melrose Park (35 Ill.Adm. Code 742.1015(i)(2));

C. Attachment C: A Certified Copy of Village of Melrose Park Ordinance No. _____, entitled "An Ordinance Authorizing and Approving the Adoption of a Memorandum of Understanding between the Village of Melrose Park and the Illinois Environmental Protection Agency In Connection with Establishing Institutional Controls for the Use of Ground Water as a Potable Water Supply in the Village of Melrose Park, County of Cook, State of Illinois."

IN WITNESS WHEREOF, the lawful representatives of the parties hereto have caused this MOU to be signed, in counterpart, as follows:

FOR: THE VILLAGE OF MELROSE PARK

BY: _____ DATE: 5/1 -2000
Ronald M. Serpico
Village President

FOR: ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

BY: _____ DATE: _____ -2000
(Name and title of signatory)

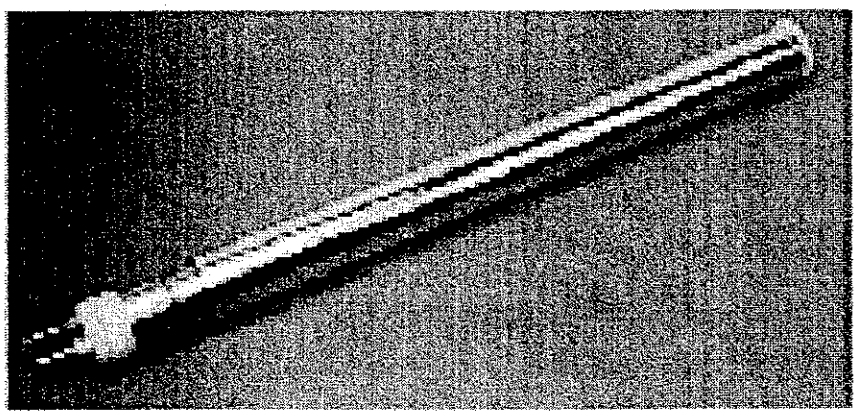
APPENDIX C

MANUFACTURER SPECIFICATIONS

QED Environmental Systems, Inc.
PRODUCTS

Eliminator Pumps for Challenging Cleanup Jobs and Clean Air Sites

PRODUCT SHEET
SPECIFICATIONS
RESOURCES
RENTAL
PAPERS



Bladder pumps control VOC emissions for tough cleanup jobs.

At sites where air emission regulations are strict, or where viscous floating product such as crude oil must be recovered, Eliminator pumps do the job.

They use a bladder of tough Teflon® or elastomer to isolate the pump air supply from the pumped liquid -- so no matter how volatile the contaminants are, they don't get into the pump exhaust air.

Eliminator pumps provide reliable top-inlet skimming or bottom-inlet pumping from 2" and 4" wells. A wide range of accessories is available, including "roving" well caps to allow accurate pump inlet positioning, and bladder replacement kits for easy field maintenance.

Eliminator Advantages

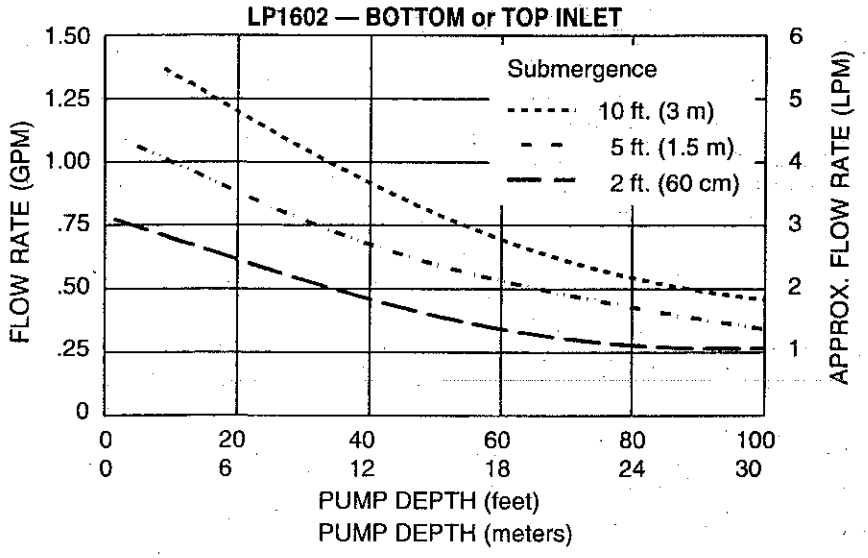
- No VOC air emissions in exhaust, because bladder isolates pumped liquid from air supply.
- Effective skimming of viscous hydrocarbons such as crude oil.
- Field replaceable bladders.

ELIMINATOR SPECIFICATIONS

	Eliminator 2"
Model No.	LP1602
Pump Type	Pneumatic bladder
Inlet	Bottom*
O.D.	1.75" (4.5 cm)
Length	23.6" (60 cm)
Weight	3.5 lbs. (1.6 kg)
Materials	LP1602—S.S./Q-Tal, Teflon bladder, Viton O-rings
Fittings: Type	Barb
Material	Stainless steel
Sizes: Liquid Discharge	1/2" (13 mm)
Air Supply	3/8" (9 mm)
Pump Stroke	.048 gal. (180 ml)
Operating pressure range	40-100 psi (275-700kPa)
Maximum lift	230 ft. (70 m)
Maximum flow rate	1.3 GPM/5 LPM (1,872 GPD/7,085 LPD)
Minimum submergence	Less than 1 ft. (30 cm)
Density of pumped liquid	Any
Cap sizes	2", 3", 4", 5", 6", & 8" (50, 75, 100, 125, 150, & 200 mm)

* Top inlet "can" also available

Note on flow curves: 100psi drive air supplied for all pump depths.



ELIMINATOR JACKETED TUBING SETS

QED's exclusive Jacketed Tubing, with a continuous nylon sheath, helps prevent hangups and loops, makes installation easier (especially in narrow or obstructed casing), and is lightweight with exceptional chemical resistance, outside and in.

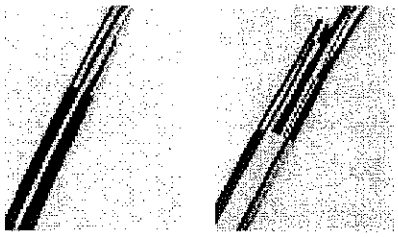
Tubing sets are supplied cut to custom lengths. Jacketed tubing and sheath are both Nylon 12, which doesn't swell in water and provides excellent resistance to most liquids and cleanup conditions, including hydrocarbons, fuels, and alkalies. For extremes of acidity, consult QED.

Two jacketed tubing sets can be used with Eliminator pumps. The SPTUBE set fits LP1702 4" (100 mm) well pumps, with 3/4" (19 mm) discharge and 1/2" (13 mm) air supply. Note: the 1/4" (6 mm) tube would be used as optional bubbler tube for on/off level control. The 3/8" (9 mm) tube would be unused.

The MINTUBE set fits LP1602 pumps, with 1/2" (13 mm) discharge, 3/8" (9 mm) air supply, and 1/4" (6 mm) optional bubbler tube.

Cable-tied UV-protected Nylon tubing bundles are often specified: Model No. L417, 1/2" & 3/8" (13 & 9 mm), for LP1602 pumps, Model No. L413, 3/4" & 1/2" (19 & 13 mm), for LP1702.

Eliminator pumps are also used with single tubing in Nylon 12 or Teflon, depending on the liquid pumped. See pages 26 and 27 for specifications.



Model	SPTUBE	MINTUBE
Description	Set for 4" (100 mm) well pumps contains 4 tubes	Set for 2" (50 mm) well pumps contains 3 tubes
Discharge O.D.	3/4" (19 mm)	1/2" (13 mm)
Air Supply O.D.	1/2" (13 mm)	3/8" (9 mm)
Unused O.D.	3/8" (9 mm)	—
***Bubbler O.D.**	1/4" (6 mm)	1/4"
Min. Bend Radius	7" (18 cm)	6" (15 cm)
Max. Pressure	325 psi (2,250 kPa)	360 psi (2,500 kPa)
† Max. Cont. Length	200' (60 m)	250' (60 m)

*Bubbler tubing is used for on/off level control. More information on this is supplied with controller.
† These are maximum lengths that can be shipped via UPS. For longer continuous lengths, consult QED.

ELIMINATOR CAPS AND ACCESSORIES

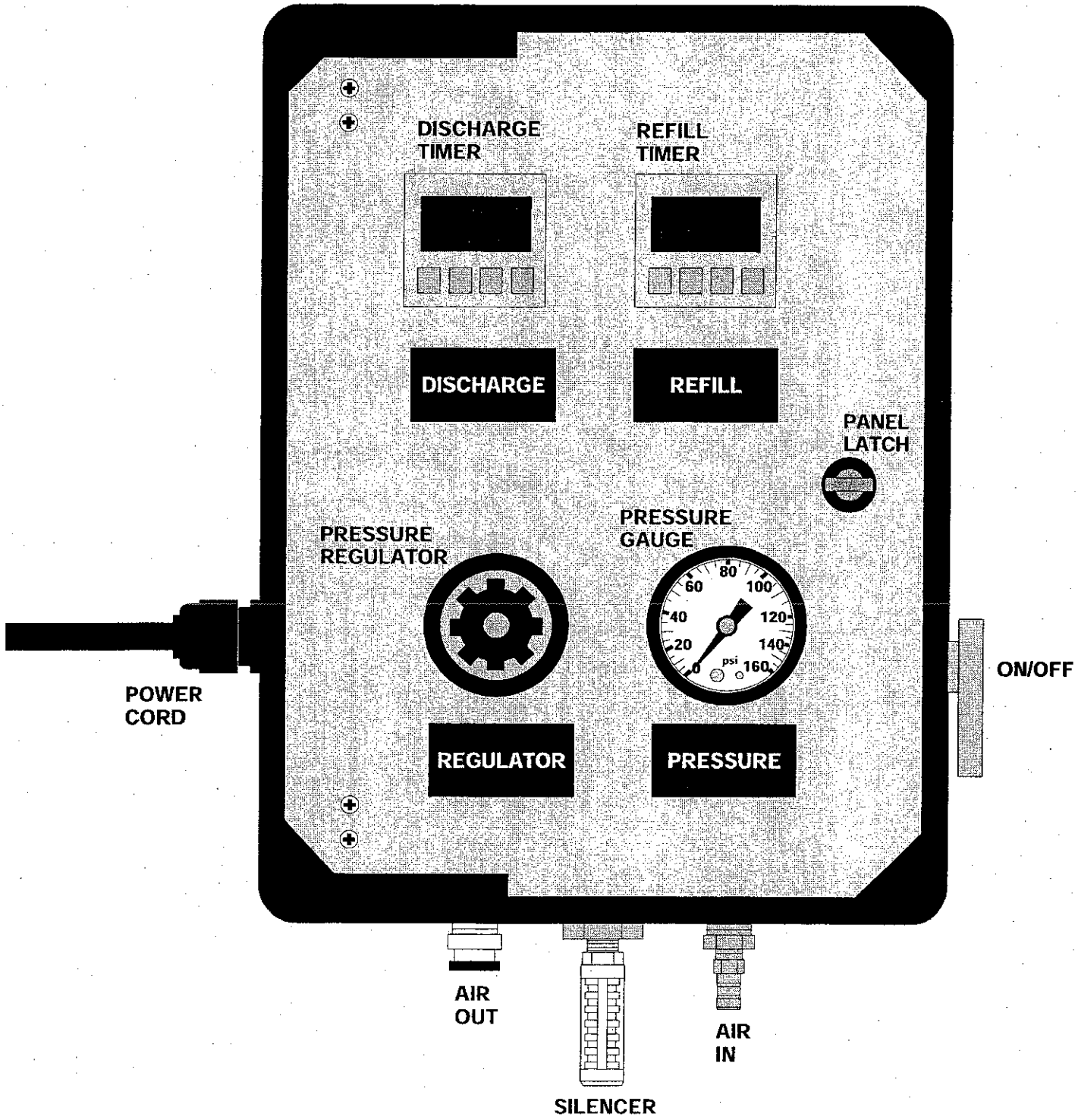
STANDARD & ROVING CAPS, WELL HEAD SUPPORTS

MODEL	FOR PUMP MODEL	WELL DIAM.	DESCRIPTION
L210A	LP1602	2" (50 mm)	Standard Cap, 2" (50 mm)
L210B	LP1602	3" (75 mm)	Standard Cap, 3" (75 mm)
L210C	All Models	4" (100 mm)	Standard Cap, 4" (100 mm)
L210D	All Models	5" (125 mm)	Standard Cap, 5" (125 mm)
L210E	All Models	6" (150 mm)	Standard Cap, 6" (150 mm)
L210G	All Models	8" (200 mm)	Standard Cap, 8" (200 mm)
L215A	LP1602	2" (50 mm)	Roving Cap, 2" (50 mm)
L212C	LP1602	4" (100 mm)	Roving Cap, 4" (100 mm)
L215C	LP1702	4" (100 mm)	Roving Cap, 4" (100 mm)
L222C	LP1602 & a 3/4" (19 mm) discharge pump	4" (100 mm)	Roving Cap, 4" (100 mm)
L223C	LP1602 & 2nd 1/2" (13 mm) discharge pump	4" (100 mm)	Roving Cap, 4" (100 mm)
L224C	LP1702 & 2nd 3/4" (19 mm) discharge pump	4" (100 mm)	Roving Cap, 4" (100 mm)
L215E	LP1702	6" (150 mm)	Roving Cap, 6" (150 mm)
L215G	LP1702	8" (200 mm)	Roving Cap, 8" (200 mm)
L220	LP1602	3" (75 mm) up	Aluminum Well Head Support
L221	LP1702	4" (100 mm) up	Aluminum Well Head Support

ACCESSORIES

MODEL	FOR PUMP MODEL	DESCRIPTION
L360	All Models	Pulse Sender Controller
L370	All Models	Level Mate
L375	All Models	Level Mate w/Gage
L377	All Models	Level Mate Referenced
L380	All Models	Well Master
L354	All Models	Remote Well Operator/Exhaust Valve
L600	All Models	Remote Well Operator
L374	All Models	Tank Full Shutoff
35548	LP1602	Roving Air Fitting, 3/8" (9 mm) Tube
35547	LP1702,	Roving Air Fitting, 1/2" (13 mm) Tube
C1702	LP1702	Top Inlet Adaptor, 4" (100 mm) PVC/SS
C1602	LP1602	Top Inlet Adaptor, 2" (50 mm)
35316	LP1602	Bottom Inlet Screen, 2" (50 mm) Teflon
S1702	LP1702	Bottom Inlet Screen, 4" (100 mm) Q-Tal
S1001	LP1702	Bottom Inlet Screen, 4" (100 mm) PVC
L353	All Models	Exhaust valve, external TFE-coat for 2" (50 mm) wells up
L350	LP1702	Exhaust valve, in-well TFE-coat for 4" (100 mm) wells up
L351	LP1702	Exhaust valve, external for 4" (100 mm) wells up
L355	LP1602	Exhaust valve, in-well TFE coat for 4" (100 mm) wells up
L356	LP1602	Exhaust valve, in-well for 4" (100 mm) wells up
L358	All Models	Exhaust valve used for controller when remote well operators are used
35978	LP1602	Bladder Replacement Kit w/35052 & 35312
35979	LP1602	Bladder Replacement Kit No Tools
36333	LP1702	Bladder Replacement Kit
36819	LP1702	Bladder Replacement Kit
35750	All Models	Pulse Pump O& M Manual

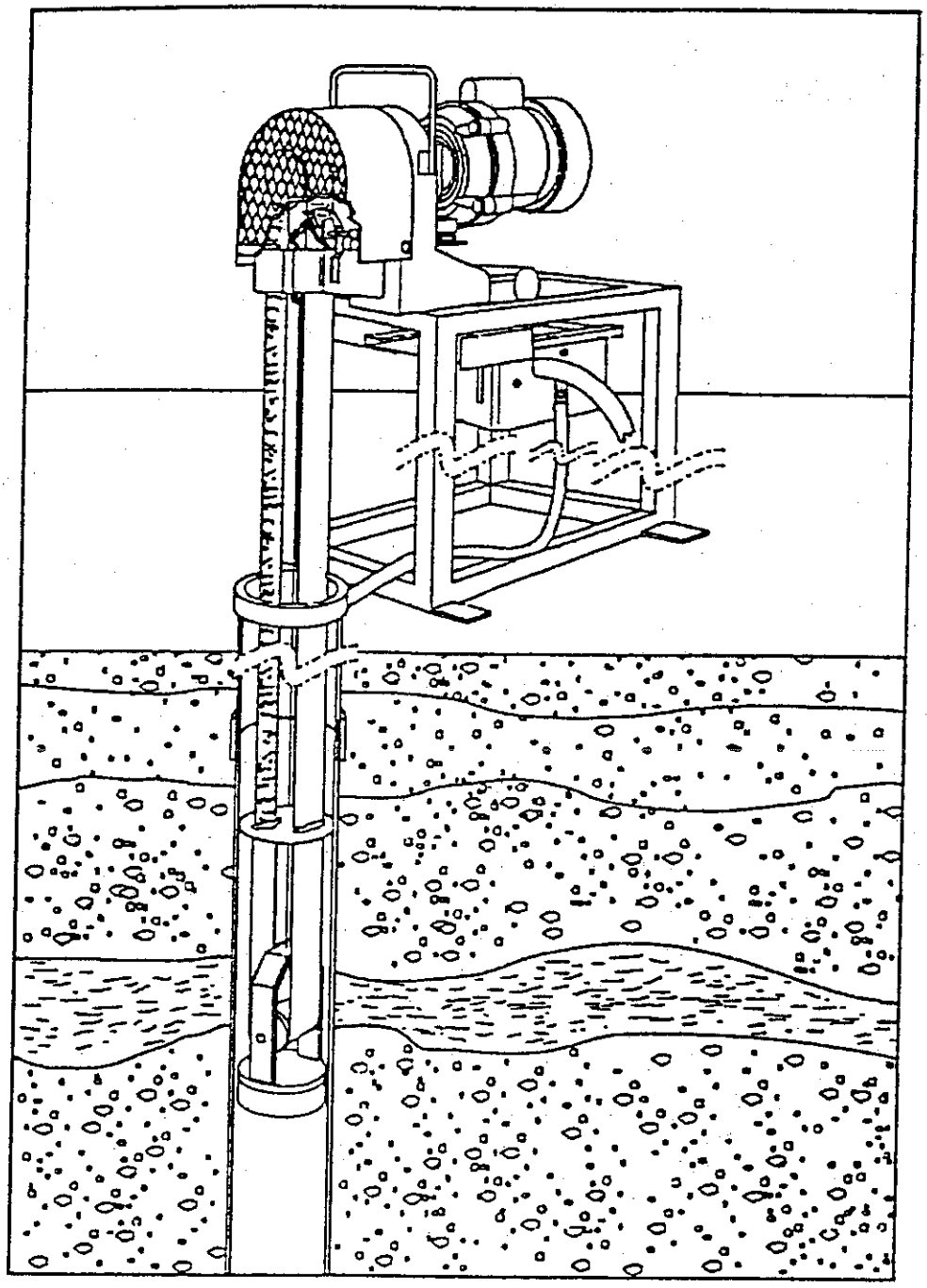
DPS360


DISCHARGE TIMER
REFILL TIMER
DISCHARGE
REFILL
PANEL LATCH
PRESSURE REGULATOR
PRESSURE GAUGE
80
60
100
40
120
20
140
0
psi
160
POWER CORD
ON/OFF
REGULATOR
PRESSURE
AIR OUT
AIR IN
SILENCER

citizinechicago
2000. 3. 15

ABANAKI

PetroXtractor™ – Well Oil Skimmer



Oil Skimming for Wells and Other Small Openings

- Ideal for removal of floating oil and other hydrocarbon liquids from existing remediation or monitoring wells
- Can be installed in well casings as small as 2 in. ID
- Elevates skimmed oil 100 feet or more for easy discharge into 55 gallon drum
- Recovers up to 12 gph of oil from water

General Description

The Abanaki PetroXtractor™ is a dependable and cost effective means of removing oil, fuel, and other floating hydrocarbons from water where access to the fluid surface is limited. It provides efficient remediation of groundwater contaminated by oil, using existing recovery and monitoring wells. Often, the PetroXtractor™ working alone will reduce oil or fuel content to an acceptable E.P.A. level. Models are available for two inch, four inch, and six inch ID well casings, with recovery rates up to 12 gph. Depths of 100 feet or more can be accommodated without the use of pumps.

The PetroXtractor™ is an oil skimmer that makes use of the differences in specific gravity and surface tension between oil and water. These physical characteristics allow the unit's continuous belt to attract floating oil in the well. After picking up the oil, the belt travels over the head pulley on the drive unit and through tandem wiper blades. The oil is then scraped off both sides of the belt and discharged through a 1-1/4" ID hose. The unique bearingless design of the tail pulley (immersed in the well water) with its tethered frame allows it to perform three important functions: it keeps proper tension on the belt, prevents accidental loss down the well, and keeps the belt centered in the casing.

The PetroXtractor™ can be installed in existing wells by mounting it on a flat surface above the well casing. Skimmer operation consists of merely lowering the belt and tail pulley into the casing until the pulley is fully immersed, placing the discharge hose in a container, and switching the unit on.

ABANAKI
CORPORATION
OIL SKIMMER DIVISION

17387 Munn Road
Chagrin Falls, OH 44023
Telephone: 800-358-7546

MADE IN

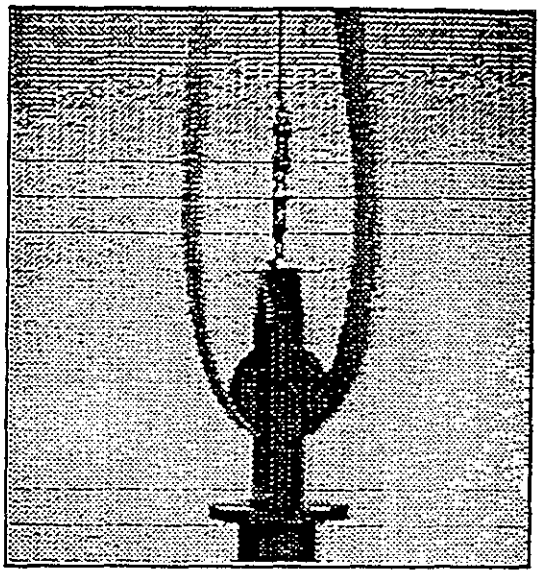
The PetroXtractor Advantages

- Allows existing monitoring wells to be used as recovery wells
- Portable — can be easily hand-carried from site to site
- A single unit separates oil and elevates it up to 100 feet without a pump
- Skims very little water (unlike other skimmers and torpedo pumps)
- Maintains skimming efficiency with fluctuating water level
- Tail pulley is tethered to the frame to prevent accidental loss of belt and tail pulley in the well casing

PetroXtractor – Well Oil Skimmer

Where To Use The PetroXtractor

The PetroXtractor is designed for those applications that have a limited access area and a deep drop between the mounting surface and the surface of the liquid. The unit can be used anywhere electric power or compressed air is available. Explosion proof and pneumatic motors are available for areas where combustible fumes may be present.



Tail Pulley Detail

Applications

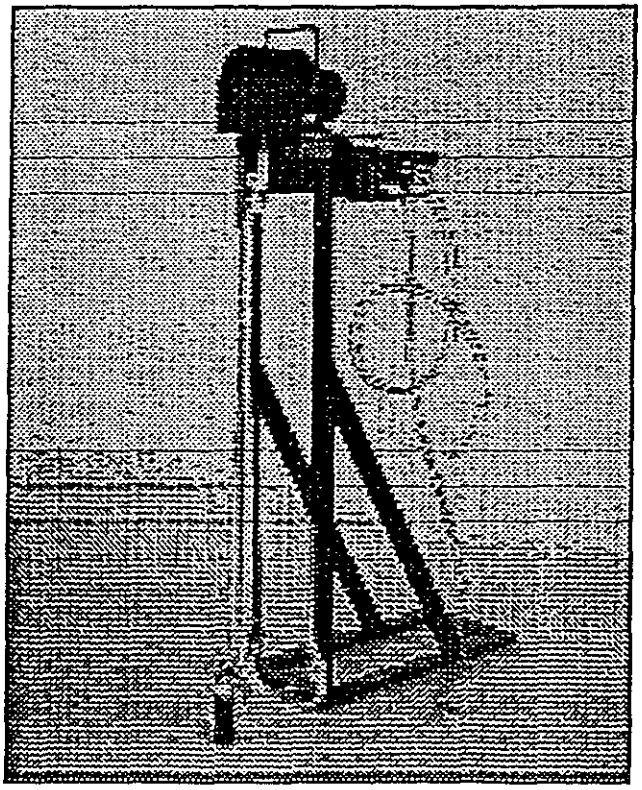
- Groundwater monitoring wells
- Recovery wells
- Underground tanks

Rugged Construction For Harsh Conditions

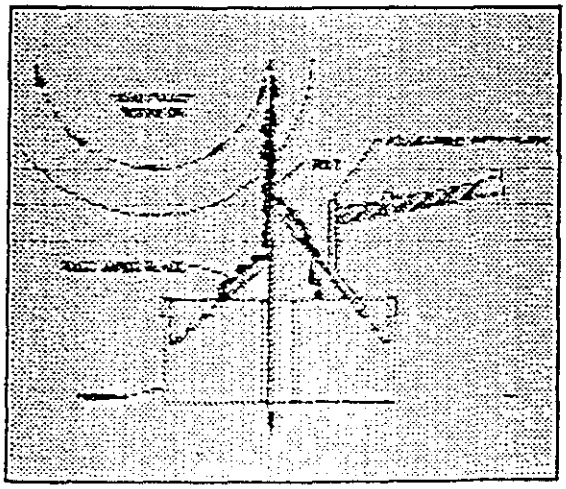
The PetroXtractor will provide for many years of trouble-free service. Belts are made of a specially engineered polymer, or a corrosion-resistant steel. A tough power train keeps the PetroXtractor running under the most severe conditions. With the proper configuration, the PetroXtractor can handle liquid temperatures up to 180°F, and the pH of the fluid can range from 1 to 13.

Key Features of the PetroXtractor

- Small mounting and operating area
- Chip resistant-powder coated finish
- Customized belt lengths and materials
- Easily mounted on flat surface
- Belt and wipers impervious to oils and fuels
- Weighted and tethered tail pulley
- Fast cleaning with minimal maintenance
- Can be customized to application needs



PetroXtractor on Mounting Stand with Oil Concentrator™



Wiper Blade Detail

ABANAKI CORPORATION
OIL SKIMMER DIVISION

17387 Munn Road
Chagrin Falls, OH 44023
Telephone: 800-358-7546

Products

ABANAKI OIL SKIMMERS

Search: GO!

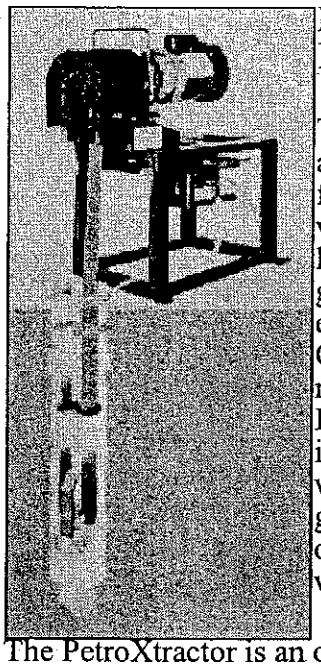
NEWS FLASH! Gasoline Skimming Breakthrough with Fuzzy Belts

PetroXtractor®

See Other Products

- Home Page
- Products
- Selection Guide
- Case Studies
- Skimming Tests
- About Oil Skimming
- Articles & Papers
- Environmental Links
- Ask Skimmerman
- About Abanaki
- News
- Sup Products

Oil Skimming for Wells and Other Small Openings with Large Vertical Drops



NEW! Abanaki's Solar Powered PetroXtractor

The Abanaki PetroXtractor is a dependable and cost effective means of removing oil, fuel, and other floating hydrocarbons from water where access to the fluid surface is limited. It provides efficient remediation of groundwater contaminated by oil, using existing recovery and monitoring wells. Often, the PetroXtractor working alone will reduce oil or fuel content to an acceptable E.P.A. level. Models are available for two inch, four inch, and six inch or larger ID well casings, with removal rates up to 12 gph. (based on SEA 30 motor oil). Depths of 100 feet or more can be accommodated without the use of pumps.

The PetroXtractor is an oil skimmer that makes use of the differences in specific gravity and surface tension between oil and water. These physical characteristics allow the unit's continuous belt to attract floating oil in the well. After picking up the oil, the belt travels over the head pulley on the drive unit and through tandem wiper blades. The oil is then scraped off both sides of the belt and discharged through a 1-1/4" ID hose. The unique bearing-less design of the tail pulley (immersed in the well water) with its tethered frame allows it to perform three important functions: it keeps proper tension on the belt, prevents accidental loss down the well, and keeps the belt centered in the casing.

The PetroXtractor can be installed in existing wells by mounting it on a flat surface above the well casing. Skimmer operation consists of merely lowering the belt and tail pulley into the casing until the pulley is fully immersed, placing the discharge hose in a container, and switching the unit on.

- Ideal for removal of floating oil and other hydrocarbon liquids from existing remediation or monitoring wells
- Can be installed in well casings as small as 2 in. ID
- Elevates skimmed oil 100 feet or more for discharge into 55 gal drum
- Removes up to 12 gph of oil from water

Advantages

- Allows existing monitoring wells to be used as recovery wells
- Portable can be easily hand-carried from site to site
- A single unit separates oil and elevates it up to 100 feet without a pump
- Skims very little water (unlike other skimmers and torpedo pumps)
- Maintains skimming efficiency with fluctuating water level
- Tail pulley is tethered to the frame to prevent accidental loss of belt and
- tail pulley in the well casing
- Easy mounting, fast cleaning with minimal maintenance
- Belt materials to fit any application

Rugged Construction For Harsh Conditions: The PetroXtractor will provide for many years of trouble-free service. Belts are specifically selected for your application (see **Belt Selection** page). A tough power train keeps the PetroXtractor running under the most severe conditions. With the proper configuration, the PetroXtractor can handle liquid temperatures up to 180 °F, and the pH of the fluid can range from 1 to 13.

Applications

The PetroXtractor is designed for those applications that have a limited access area and a deep drop between the mounting surface and the surface of the liquid. The unit can be used anywhere, even where no electric power or compressed air is available. Explosion proof and pneumatic motors are available for areas where combustible fumes may be present. Vapor-tight models can also enhance the explosion proof properties of the unit.

- Groundwater monitoring wells
- Recovery wells
- Underground tanks

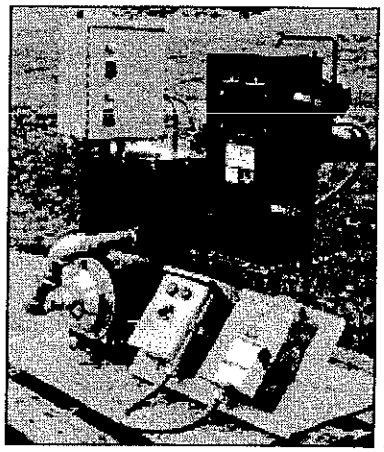
Features

- Small mounting and operating area
- Chip resistant-powder coated finish
- Customized belt lengths and materials
- Easily mounted on flat surface
- Belt and wipers impervious to oils and fuels
- Weighted and tethered tail pulley
- Fast cleaning with minimal maintenance
- Can be customized to application needs

PetroXtractor Underground Systems

All units can be built Explosion Proof, Vapor-Tight or Standard. Size of transfer pump is dependent on product, run to AST and

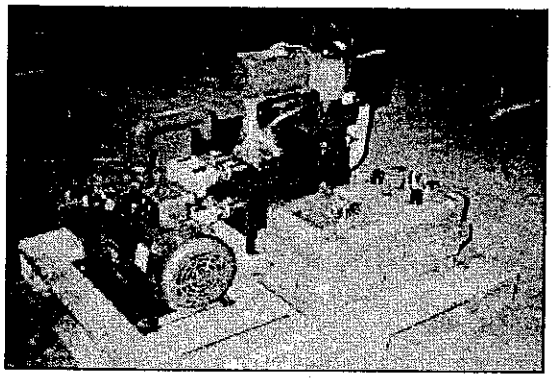
grade differential.



Non-XP, Vapor-Tight

This unit features:

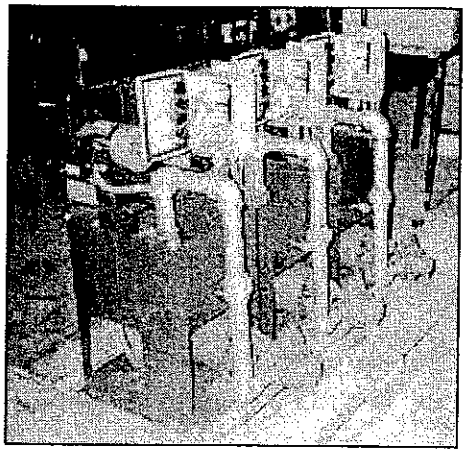
- Fully automated controls
- Product transfer capability
- Above grade monitoring
- Remote disconnect



Explosion Proof

This unit features:

- Fits in shallow vault (2.5'deep)
- Fully automated controls
- Product transfer capability
- Complete 'in vault' controls



Standard

This unit features:

- Fits in narrow vault (3'dia)
- Fully automated controls
- Product transfer capability
- Complete 'in vault' controls

Solar Powered PetroXtractor

Specifications

Oil Removal Rate: Model PX-A: 3 gph (11 lph) with 1 in.(2.5 cm) wide belt
Model PX-B: 6 gph (23 lph) with 2 in.(5 cm) wide belt
Model PX-C:12 gph (45 lph) with 4 in.(10 cm) wide belt
(Removal rate is based on 30 weight oil in water.)

Motor: Fractional hp TEFC, 115VAC, single phase, 60 Hz gear
motor, including 8 foot cord with electrical plug
Optional: 50 Hz; 3-phase; explosion proof; 12VDC;
and pneumatic

Belt Width (Specify): PX-A (1 in. (2.5 cm) for 2 in. (5 cm) ID casing
PX-B (2 in. (5 cm)) for 4 in. (10 cm) ID casing
PX-C (4 in. (10 cm)) for 6 in. (15 cm) ID casing

Belt Length: User specified (up to 100', measured from the center of head pulley to center of tail pulley)

Belt Material: Specifically selected for your application (see **Belt Selection** page)

Wiper Material: UHC rubber standard, Optional: Nitrile, CRV rubber and Ceramic

Mounting Method: Flat base mount with oil discharge through a 1-1/4 in.
(3.1cm) ID hose

Mounting Area: Installation drawing coming soon.

Weights: Complete assembly without tail pulley or belt:
Model PX-A: 30 lbs. (13.6 Kg.)
Model PX-B: 31 lbs. (14 Kg.)
Model PX-C: 38 lbs. (17 Kg.)

PX-A Tail pulley: 2 lbs. (1.3 Kg.)
PX-B Tail Pulley: 3 lbs. (2.7 Kg.)
PX-C Tail Pulley: 4.5 lbs. (4.1 Kg.)

PX-A, 1 in. x 5 ft (1.5m) polymer belt: 0.55 lbs. (0.25 Kg.)
PX-B, 2 in. x 5 ft (1.5m) polymer belt: 1.1 lbs. (0.5 Kg.)
PX-C, 4 in. x 5 ft (1.5m) polymer belt: 2.2 lbs. (1.0 Kg.)
(Belt weight varies according to actual length specified.)

Options (Specify):

- Above-ground mounting stand
- Below grade mounting kit with reservoir and mounting bracket; transfer pump optional
- Stainless steel construction
- On-Off float switch to fit 3/4 in.(1.8 cm) bung of discharge drum

bung of discharge drum
- Oil Concentrator™ for virtually water-free oil discharge. (See back page.)
- Reinforced poly-shelters for durable protection of skimmer in outside applications
- 24 hour timer to start/stop PetroXtractor at specified intervals

Standard Configuration: The Abanaki PetroXtractor is supplied with a head pulley guard, adjustable wiper blade assembly, skimmer belt, tail pulley, fractional hp, 110VAC, 60 Hz gear motor, and assembly/maintence instructions.

Specification Notes:
1. The PetroXtractor is UPS shippable.
2. Consult factory for recommendations covering operating condictions not listed here.

Contact Abanaki

- Get Expert Help
- How to Buy Products

Send This Page to a Colleague or Friend!

Your E-Mail | Your Name | E-Mail of Friend | Send

Home • Products • Selection Guide • Case Studies
Newsletter • About Skimming • Articles & Papers • Links
Ask Skimmerman • About Abanaki • News • Buy Products

ABANAKI CORPORATION OIL SKIMMER DIVISION

Abanaki Corporation Oil Skimmer Division
17387 Munn Road • Chagrin Falls, OH 44023
Phone (440) 543-7400 • **Toll Free** (800) 358-SKIM
E-mail info@abanaki.com • **Fax** (440) 543-7404

APPENDIX D
FIELD REPORTS

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System

Date drum connected to QED discharge connection 10/19/98 R.H.

Date drum disconnected from QED discharge connection 11/2/98 R.H.

Approximate percentage of liquid in clear bottle that is DNAPL 1/2" R.H.

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 11/2/98 RH
Date drum disconnected from QED discharge connection 11/18/98 RH
Approximate percentage of liquid in clear bottle that is DNAPL 3/5" RH

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 11/18/98 RM
Date drum disconnected from QED discharge connection 11/30/98 RM
Approximate percentage of liquid in clear bottle that is DNAPL 1/2" RM

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 01/13/99 RH
Date drum disconnected from QED discharge connection 01/27/99 RH
Approximate percentage of liquid in clear bottle that is DNAPL 1/64" RH

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 01/27/99 RH
Date drum disconnected from QED discharge connection 02/09/99 RH
Approximate percentage of liquid in clear bottle that is DNAPL 1/8" RH

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 02/09/99 ZH
Date drum disconnected from QED discharge connection 02/19/99 ZH
Approximate percentage of liquid in clear bottle that is DNAPL 1/8" ZH

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 02/29/99 EH
Date drum disconnected from QED discharge connection 03/25/99 EH
Approximate percentage of liquid in clear bottle that is DNAPL 1/4" EH

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL. facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 03/25/99 RH
Date drum disconnected from QED discharge connection 04/05/99 RH
Approximate percentage of liquid in clear bottle that is DNAPL 1/8" RH

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 04/05/99 RH
Date drum disconnected from QED discharge connection 04/23/99 RH
Approximate percentage of liquid in clear bottle that is DNAPL 5% +/-

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 04/23/99 RH
Date drum disconnected from QED discharge connection 06/16/99 RH
Approximate percentage of liquid in clear bottle that is DNAPL None

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 06/16/99 RH
Date drum disconnected from QED discharge connection 07/15/99 RH
Approximate percentage of liquid in clear bottle that is DNAPL_____

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 9-20-99
Date drum disconnected from QED discharge connection 10-26-99
Approximate percentage of liquid in clear bottle that is DNAPL Scott

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-113
RECOVERED DNAPL & GROUNDWATER REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-113 is located in the Heat Treating Building. A pneumatic driven QED Eliminator bladder pump has been installed and set to pump approximately 2 to 3 gallons per day. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to monitor the operation of the QED system. As each drum is filled (approximately two per month) the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated groundwater from well M&A-113). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out one of these forms for each filled drum. Before connecting the new drum, one or two pump strokes are to be discharged into a clear plastic bottle and an observation made as to whether or not any dense non-aqueous phase liquid (DNAPL) is present. If present, DNAPL is the dark liquid at the bottom.

3. Report Form Completion

Fill in the dates below for each drum connected to the QED Pump System
Date drum connected to QED discharge connection 10/26/99
Date drum disconnected from QED discharge connection 12/15/99
Approximate percentage of liquid in clear bottle that is DNAPL Spotty

4. Reporting Data to Mabbett

A copy of each completed form is to be faxed to the Bedford, MA, office of M&A to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-114
SKIMMER OPERATION & RECOVERED PETROLEUM REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-114 is located in the Heat Treating Building and a ABANAKI belt oil skimmer has been installed. The belt skimmer is equipped with a timer which must be manually set each time skimmer is run. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to operate the belt skimmer system for approximately 3 hours one time each week. An extension cord is necessary to provide electricity to run the belt skimmer. Observe whether or not oil is visible on belt. Also observed if oil is dripping into the drum. Record the date, times of operation and oil observations below. As each drum is filled the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated petroleum and groundwater from well M&A-114). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out this form as requested.

3. Report Form Completion

Date and times of operation.	Observations (was oil observed on belt? Was oil thin or thick? Any Odors? Amount of oil in drum?)
2/21/00 – 12:55 P.M	oil on belt, thin, no odor, 7"
2/29/00 – 7:46 A.M	oil on belt, thin, no odor, 7¼"
3/6/00 – 7:59 A.M	oil on belt, thin, no odor, 7¼"
3/20/00 – 10:38 A.M	oil on belt, thin, no odor, 7½"
4/4/00 – 1:52 P.M	oil on belt, thin, no odor, 7¾"
4/20/00 – 9:17 A.M	oil on belt, thin, no odor, 8"
5-1-00 – 8:42 A.M	oil on belt, thin, no odor, 8¼"

4. Reporting Data to Mabbett

A copy of this completed form is to be faxed to the Bedford, MA, office of M&A once a month to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-114
SKIMMER OPERATION & RECOVERED PETROLEUM REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-114 is located in the Heat Treating Building and a ABANAKI belt oil skimmer has been installed. The belt skimmer is equipped with a timer which must be manually set each time skimmer is run. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to operate the belt skimmer system for approximately 3 hours one time each week. An extension cord is necessary to provide electricity to run the belt skimmer. Observe whether or not oil is visible on belt. Also observed if oil is dripping into the drum. Record the date, times of operation and oil observations below. As each drum is filled the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated petroleum and groundwater from well M&A-114). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out this form as requested.

3. Report Form Completion

Date and times of operation.	Observations (was oil observed on belt? Was oil thin or thick? Any Odors? Amount of oil in drum?)
1/3/00 - 10:20 A.M	oil on belt, thin, no odor, 6 1/2"
1/10/00 - 9:32 A.M	oil on belt, thin, no odor, 6 1/2"
1/19/00 - 9:16 A.M.	oil on belt, thin, no odor, 6 1/2"
1/25/00 - 7:44 A.M	oil on belt, thin, no odor, 6 1/2"
2/2/00 - 7:54 AM	oil on belt, thin, no odor, 6 3/4"
2/7/00 - 8:37 A.M	oil on belt, thin, no odor, 7"
2/14/00 - 8:31 A.M	oil on belt, thin, no odor, 7"

4. Reporting Data to Mabbett

A copy of this completed form is to be faxed to the Bedford, MA, office of M&A once a month to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-114
SKIMMER OPERATION & RECOVERED PETROLEUM REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-114 is located in the Heat Treating Building and a ABANAKI belt oil skimmer has been installed. The belt skimmer is equipped with a timer which must be manually set each time skimmer is run. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to operate the belt skimmer system for approximately 3 hours one time each week. An extension cord is necessary to provide electricity to run the belt skimmer. Observe whether or not oil is visible on belt. Also observed if oil is dripping into the drum. Record the date, times of operation and oil observations below. As each drum is filled the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated petroleum and groundwater from well M&A-114). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out this form as requested.

3. Report Form Completion

Date and times of operation.	Observations (was oil observed on belt? Was oil thin or thick? Any Odors? Amount of oil in drum?)
10/12/99 8:16 A.M	oil on belt, thin, no odor, 6½"
10/26/99 7:58 A.M	oil on belt, thin, no odor, 6½"
11/8/99 9:32 A.M	oil on belt, thin, no odor, 6½"
11/24/99 8:47 A.M	oil on belt, thin, no odor, 6½"
12/6/99 7:28 A.M	oil on belt, thin, no odor, 6½"
12/21/99 10:27 A.M	oil on belt, thin, no odor, 6½"

4. Reporting Data to Mabbett

A copy of this completed form is to be faxed to the Bedford, MA, office of M&A once a month to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-114
SKIMMER OPERATION & RECOVERED PETROLEUM REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-114 is located in the Heat Treating Building and a ABANAKI belt oil skimmer has been installed. The belt skimmer is equipped with a timer which must be manually set each time skimmer is run. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to operate the belt skimmer system for approximately 3 hours one time each week. An extension cord is necessary to provide electricity to run the belt skimmer. Observe whether or not oil is visible on belt. Also observed if oil is dripping into the drum. Record the date, times of operation and oil observations below. As each drum is filled the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated petroleum and groundwater from well M&A-114). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out this form as requested.

3. Report Form Completion

Date and times of operation.	Observations (was oil observed on belt? Was oil thin or thick? Any Odors? Amount of oil in drum?)
06/16/99 at 07:49:00 RH	Oil on Belt/Thin/no odors/4 1/2" RH
07/15/99 at 09:50:00 RH	Oil on Belt/Thin/no odors/4 1/2" RH

4. Reporting Data to Mabbett

A copy of this completed form is to be faxed to the Bedford, MA, office of M&A once a month to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-114
SKIMMER OPERATION & RECOVERED PETROLEUM REPORT FORM

Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-114 is located in the Heat Treating Building and a ABANAKI belt oil skimmer has been installed. The belt skimmer is equipped with a timer which must be manually set each time skimmer is run. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to operate the belt skimmer system for approximately 3 hours one time each week. An extension cord is necessary to provide electricity to run the belt skimmer. Observe whether or not oil is visible on belt. Also observed if oil is dripping into the drum. Record the date, times of operation and oil observations below. As each drum is filled the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated petroleum and groundwater from well M&A-114). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out this form as requested.

3. Report Form Completion

Date and times of operation.	Observations (was oil observed on belt? Was oil thin or thick? Any Odors? Amount of oil in drum?)
02/09/99 at 08:02:00	oil on Belt/Thin/no Odors/3 1/2" EA
02/27/99 at 07:00:00	Oil on Belt/Thin/no odors/3 3/4" EA
03/25/99 at 08:00:00	oil on Belt/Thin/no odors/3 3/4" EA
04/05/99 at 08:00:00	oil on Belt/Thin/no odors/3 7/8" EA
04/23/99 at 09:50:00	Oil on Belt/Thin/no odors/3 7/8" EA
05/14/99 at 09:00:00	oil on Belt/Thin/no odors/4" EA

4. Reporting Data to Mabbett

A copy of this completed form is to be faxed to the Bedford, MA, office of M&A once a month to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

MABBETT & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & ENGINEERS
5 Alfred Circle, Bedford, MA 01730-2346
(781) 275-6050 FAX (781) 275-5651

MONITORING WELL M&A-114
SKIMMER OPERATION & RECOVERED PETROLEUM REPORT FORM
Lindberg Heat Treating Company Melrose Park, IL facility
October 13, 1998

1. Introduction

Monitoring well M&A-114 is located in the Heat Treating Building and a ABANAKI belt oil skimmer has been installed. The belt skimmer is equipped with a timer which must be manually set each time skimmer is run. Pumped fluids are discharged into a 55-gallon steel drum equipped with a tank full shut off sensing tube.

2. System Operation

LHT personnel are requested to operate the belt skimmer system for approximately 3 hours one time each week. An extension cord is necessary to provide electricity to run the belt skimmer. Observe whether or not oil is visible on belt. Also observed if oil is dripping into the drum. Record the date, times of operation and oil observations below. As each drum is filled the filled drum is to be replaced with an empty drum. The date of drum change must be written on both drums with a paint marker (each drum must be labeled with a date of connection, a date of disconnection and that the drum contains VOC contaminated petroleum and groundwater from well M&A-114). Each filled drum is to be move to a temporary storage area (the Salt Building during spring, fall and summer). Drums must be stored at a location where they will not freeze during winter. LHT personnel are to fill out this form as requested.

3. Report Form Completion

Date and times of operation.	Observations (was oil observed on belt? Was oil thin or thick? Any Odors? Amount of oil in drum?)
Oct 98	None
Nov 98	None
Dec 98	None
Jan 19, 1999	Thin / no Odors / 3½" in drum

4. Reporting Data to Mabbett

A copy of this completed form is to be faxed to the Bedford, MA, office of M&A once a month to the attention of George Lingenfelter (fax number 781 - 275 - 5651). The original form is to be kept on file in the LHT maintenance office.

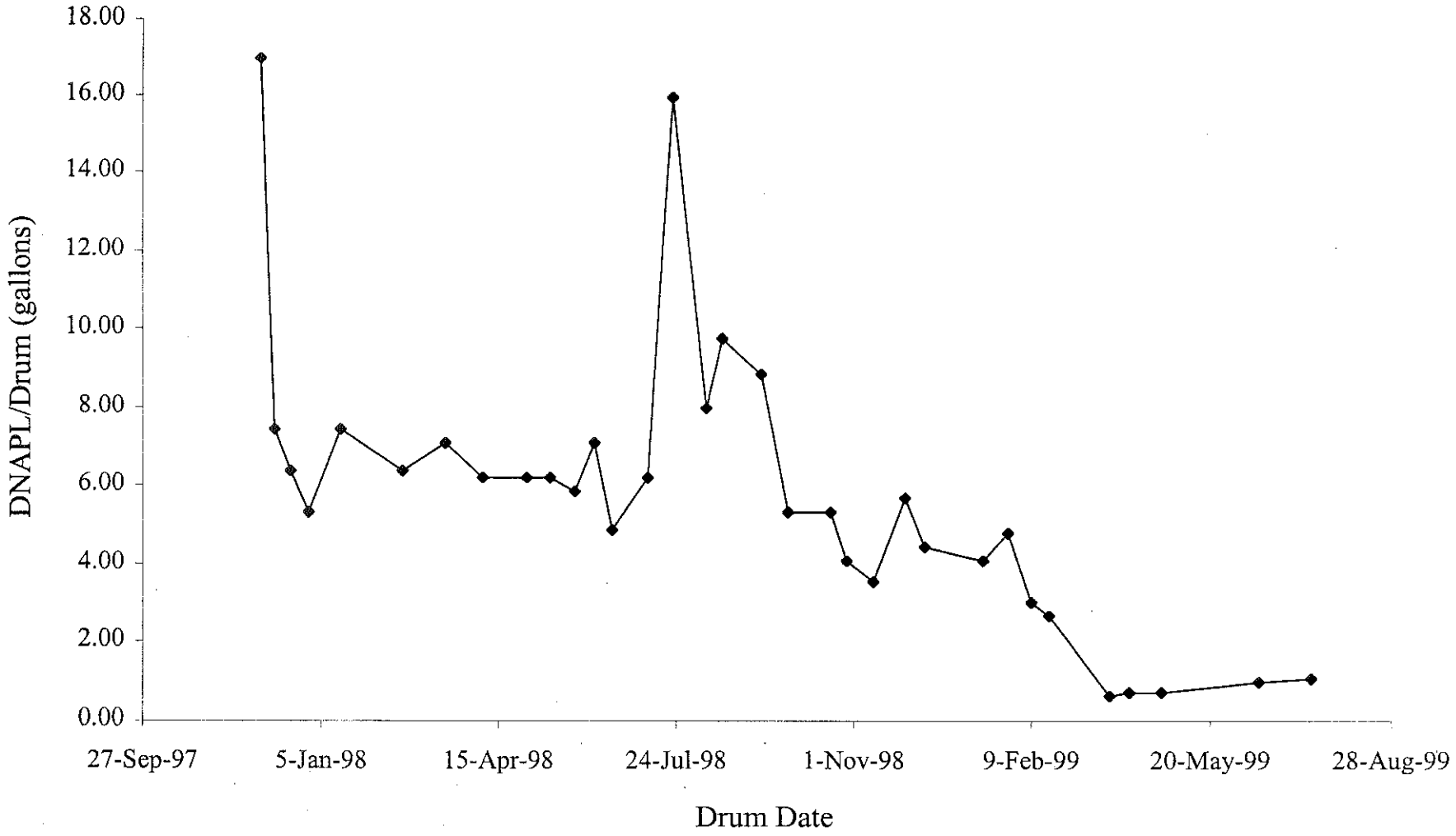
DNAPL Removal from Well M&A-113

Drum Number	Drum Date	DNAPL (ft)	DNAPL (gal)	Total Liquid (ft)	Total Liquid (gal)	Comments
3	2-Dec-97	0.80	16.98	1.5	31.84	
11	10-Dec-97	0.35	7.43	1.5	31.84	
12	19-Dec-97	0.30	6.37	1.5	31.84	
	29-Dec-97	0.25	5.31	1.5	31.84	
13	16-Jan-98	0.35	7.43	1.5	31.84	
14	20-Feb-98	0.30	6.37	1.5	31.84	
15	16-Mar-98	0.33	7.08	1.54	32.72	
17	6-Apr-98	0.29	6.19	1.58	33.61	
18	1-May-98	0.29	6.19	1.58	33.61	
19	14-May-98	0.29	6.19	1.83	38.91	
20	28-May-98	0.28	5.84	1.58	33.61	
21	8-Jun-98	0.33	7.08	1.79	38.03	
22	18-Jun-98	0.23	4.86	1.33	28.30	
23	8-Jul-98	0.29	6.19	1.75	37.14	
24	22-Jul-98	0.75	15.92	1.75	37.14	
*	10-Aug-98	0.38	7.96	1.75	37.14	
25	19-Aug-98	0.46	9.73	1.63	34.49	
26	10-Sep-98	0.42	8.84	1.58	33.61	
*	25-Sep-98	0.25	5.31	1.75	37.14	
36	19-Oct-98	0.25	5.31	1.50	31.84	
37	28-Oct-98	0.19	4.07	1.40	29.72	
38	12-Nov-98	0.17	3.54	1.20	25.47	
39	30-Nov-98	0.27	5.66	1.50	31.84	
40	11-Dec-98	0.21	4.42	1.70	36.08	
41	13-Jan-99	0.19	4.07	1.60	33.96	
*	27-Jan-99	0.23	4.78	1.50	31.84	
*	9-Feb-99	0.14	3.01	1.45	30.78	

*	19-Feb-99	0.13	2.65	1.50	31.84
42	25-Mar-99	0.03	0.62	1.40	29.72
*	5-Apr-99	0.03	0.71	1.30	27.59
43	23-Apr-99	0.03	0.71	1.40	29.72
*	16-Jun-99	0.05	0.97	1.50	31.84
44	15-Jul-99	0.05	1.06	2.30	48.82
Total to date:			**188.81**		**1097.51**

diameter of drum = 1.9 ft
height of drum = 3.0 ft
7.5gal/CF
v = 3.14r2h

DNAPL Recovery M&A-113



APPENDIX E

DEED RESTRICTION FOR SOIL CONTAMINATION

Institutional Control
Proposed Land Use Restrictions and Conditions
Heat Treating Building
Lindberg Heat Treating Company
1975 North Ruby Street
Melrose Park, IL

Based on current findings, as described in the *Site Investigation Report*, *Remedial Objectives Report*, and *Remedial Action Plan*, land use restrictions and conditions have been developed for a portion of the Heat Treating Building at the Lindberg Heat Treating Company facility at 1975 North Ruby Street in Melrose Park, IL. The restrictions and conditions described herein will prevent risk to human health and the environment associated with potential future exposure(s) to residual concentrations of constituents in soil and groundwater at the designated portion of the facility. Current and future activities and uses that are permitted and those that are controlled within the portion of the facility are described. Such current commercial/industrial activities and uses are anticipated to continue at the portion of the Heat Treating Building subject to the restrictions and conditions for the reasonably foreseeable future. The following restrictions and conditions are presented:

1. Permitted Activities and Uses. Residual constituent concentrations in soil and groundwater at a portion of the Heat Treating Building pose no significant risk to human health and the environment provided that:

   (i) Continued industrial/commercial land uses are permitted including, but not limited to, manufacturing and production operations, noninvasive uses such as material handling and loading, aboveground material storage, pedestrian and vehicular traffic, and vehicle parking.

   (ii) Subsurface excavation or other invasive activities including construction, maintenance, and repair of utilities below the local ground surface shall be conducted under an appropriate site-specific Health and Safety Plan ("HASP") prepared pursuant to Occupational and Safety and Health Administration (OSHA) regulations and guidelines and a Soil Management Plan ("SMP") prepared pursuant to 35 Illinois Administrative Code (IAC) Part 742 and/or other relevant and appropriate regulations. The HASP and SMP must be developed and implemented under the supervision of an appropriately accredited environmental professional in accordance with 35 IAC Part 742 and other applicable federal, state, and/or local statutes and regulations. The HASP shall include provisions to minimize human contact with contaminated soil and groundwater. The SMP shall provide for soil and groundwater management resulting from construction, excavation, and dewatering activities. Copies of the HASP and SMP are not attached to this document at there are no current plans to conduct subsurface excavation or other invasive activities within the portion of the building subject to these conditions.

   (iii) Such other activities or uses which, in the opinion of an appropriately accredited environmental professional, shall present no greater risk of harm to health, safety, public welfare, or the environment than the activities and uses set forth in this Paragraph.

2. Restricted Activities. Activities and uses which are inconsistent with the objectives of this Institutional Control, and which, if implemented at the portion of the facility, may result in a risk of harm to human health and/or the environment are as follows:

   (i) Residential, children's school, playground, children's daycare, recreational, and/or other such activities and uses which could result in unacceptable exposures.

(ii) Gardening or other agricultural activities and uses which result in exposures to residual contamination through direct human contact with, ingestion of, and/or inhalation of contaminated soil, groundwater, agricultural produce, airborne dust, and/or related fugitive emissions;

(iii) Site re-construction activity that compromises and/or removes the engineered barrier currently that currently restricts access to the area of residual contamination unless efforts are included following construction to restore the engineered barrier.

(iv) Disturbance or removal of soil or groundwater existing below the engineered barrier unless such activity is conducted under an appropriate HASP and SMP as stipulated in Paragraph 1.

(v) Use of on-site groundwater at the facility for any purpose including but not limited to potable water, process water and irrigation.

(vi) Other such activities and uses which, in the opinion of an appropriately accredited environmental professional present a greater potential risk of harm to human health and/or the environment, other than those subject to the provisions of Paragraph 1.

3. Conditions Set Forth. The following conditions apply to prevent potential risk to human health and the environment

(i) The concrete floor, within the portion of the facility subject to this Institutional Control shown in Exhibit A-1, is an engineered barrier that prevents contact with residual concentrations of contaminants in soil and groundwater and must be maintained.

(ii) Except as set forth in Paragraph 1, no subsurface excavation or other invasive activities shall occur which could result in potential exposure to identified contaminated soil and groundwater unless appropriate HASP and SMP provisions are developed and implemented as outlined in Paragraph 1.

(iii) At a minimum, SMP provisions must:

(a) Establish control measures which restrict access to the soil excavation area by unauthorized personnel not covered under the HASP and limit potential physical and/or chemical hazards during periods when an open soil excavation is left unattended by project personnel;

(b) Include excavated soil segregation, staging, stockpiling, transport, disposition, and/or on-site reuse (if appropriate) provisions which minimize inadvertent exposures to investigation- and/or remediation-derived wastes through direct human contact with, ingestion of, and/or inhalation of contaminated soil, water, airborne dust, and/or related fugitive emissions by workers, visitors, abutters, and/or trespassers.

Illinois Environmental Protection Agency
Bureau of Land
Remedial Project Management Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

FOR ILLINOIS EPA USE:
LOG NO. _____

Site Remediation Program Form (DRM-2)
(To Be Submitted with all Plans and Reports)

I. Site Identification:

Site Name: Lindberg Heat Treating Company
Street Address: 1975 North Ruby Street
City: Melrose Park Illinois Inventory I. D. Number: 0311860011
IEMA Incident Number: 891730

II. Remediation Applicant:

Applicant's Name: Mr. Brian Strebing Company: Lindberg Heat Treating Company
Street Address: 1975 North Ruby Street
City: Melrose Park State: IL ZIP Code: 60160 Phone: (708) 865-5551

I hereby request that the Illinois EPA review and evaluate the attached project documents in accordance with the terms and conditions of the Environmental Protection Act (415 ILCS 5), implementing regulations, and the review and evaluation services agreement.

Remediation Applicant's Signature: _____ Date: 8-15-00

III. Contact Person:

Contact's Name: Mr. Brian Strebing Company: Lindberg Heat Treating Company
Street Address: 1975 North Ruby Street
City: Melrose Park State: IL ZIP Code: 60160 Phone: (708) 865-5551

IV. Review & Evaluation Licensed Professional Engineer ("RELPE"), if applicable:

RELPE's Name: _____ Company: _____
Street Address: _____
City: _____ State: _____ ZIP Code: _____ Phone: _____

Registration Number: _____ License Expiration Date:

All information submitted is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines. The Illinois EPA is authorized to require this information under Sections 415 ILCS 5/58 - 58.12 of the Environmental Protection Act and regulations promulgated thereunder. Disclosure of this information is required as a condition of participation in the Site Remediation Program. Failure to do so may prevent this form from being processed and could result in your plan(s) or report(s) being rejected. This form has been approved by the Forms Management Center.

V. Project Documents Being Submitted:

Document Title: Remedial Action Plan Date of Preparation of Plan or Report: _____

Prepared by: Mabbett & Associates, Inc. Prepared for: Lindberg Heat Treating Company

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☒ Site Investigation Report - Focused
- ☐ Remediation Objectives Report-Tier 1or 2
- ☐ Remediation Objectives Report-Tier 3
- ☐ Remedial Action Plan
- ☐ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☐ Contaminant Fate & Transport Modeling
- ☐ Environmental Remediation Tax Credit - Budget Plan Review

Other: _____

Document Title: _____ Date of Preparation of Plan or Report: _____

Prepared by: _____ Prepared for: _____

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☐ Site Investigation Report - Focused
- ☐ Remediation Objectives Report-Tier 1or 2
- ☐ Remediation Objectives Report-Tier 3
- ☐ Remedial Action Plan
- ☐ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☐ Contaminant Fate & Transport Modeling
- ☐ Environmental Remediation Tax Credit - Budget Plan Review

Other: _____

Document Title: Date of Preparation of Plan or Report:

Prepared by: Prepared for:

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☐ Site Investigation Report - Focused
- ☐ Remediation Objectives Report-Tier 1or 2
- ☐ Remediation Objectives Report-Tier 3
- ☐ Remedial Action Plan
- ☐ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☐ Contaminant Fate & Transport Modeling
- ☐ Environmental Remediation Tax Credit - Budget Plan Review

Other: _____

VI. Professional Engineer's Seal or Stamp:

I attest that all site investigations or remedial activities that are the subject of this plan(s) or report(s) were performed under my direction, and this document and all attachments were prepared under my direction or reviewed by me, and to the best of my knowledge and belief, the work described in the plan and report has been designed or completed in accordance with the Illinois Environmental Protection Act (415 ILCS 5), 35 Ill. Adm. Code 740, and generally accepted engineering practices, and the information presented is accurate and complete.

ROBERT D. EDELMAN 0062-051838 LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

Engineer Name: Robert Edelman Professional Engineer Seal or Stamp:

Company: Mabbett & Associates, Inc. Phone: (781) 275-6050

Registration Number: 0062-051838

Signature: Robert D Edelman License Expiration Date: 11/30/01